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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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STATUS OF U. S. SHIPS NOW BUILDING.

Rapid progress is being made towards the completion of all types of vessels building for the navy, according to the recent report of Chief Constructor Hichborn. It shows that all the five battleships except the Wisconsin, building on the Pacific coast, are over half completed, that a majority of the destroyers and torpedo boats will be completed before the close of the year, and that then for the first time the navy will be in possession of six thirty-knot destroyers which are believed to represent the highest type of their class in the navies of the world. The following lists show the percentage of work on each vessel now building:

Battleships.—Kearsarge, 16 knots, 63 per cent.; Kentucky, 16 knots, 62 per cent.; Illinois, 16 knots, 50 per cent.; Alabama, 16 knots, 61 per cent.; Wisconsin, 16 knots, 41 per cent.

Torpedo Boats.—Rowan, 26 knots, 99 per cent.; Dhalgren, 30 knots, 85 per cent., T. A. M. Craven, 30 knots, 70 per cent., Farragut, 30 knots, 95 per cent., Davis, 22.5 knots, 96 per cent.; Fox 22.5 knots, 92 per cent., Mackenzie, 20 knots, 99 per cent.; Stringham, 30 knots, 45 per cent., Goldsborough, 30 knots, 19 per cent.; Bailey, 30 knots, 20 per cent.

Submarine Torpedo Boat.—Plunger, 8 knots, 78 per cent,

Tugs.—No. 6, 12 knots, 35 per cent.

Training Vessel.—Chesapeake, 6 per cent.

The Navy Department does not anticipate placing the Chicago in commission at the New York Navy Yard before Oct. 1 next, by which time she will be ready for service after three years' retirement. Practically a new vessel with her speed increased from sixteen to nineteen knots, equipped with a rapid fire battery, and provided with an entire new set of machinery, she will be one of the most efficient ships of the cruiser class in the navy. One of the first vessels built when the new navy was being developed, she will be in her rehabilitated condition one of the best of the unprotected type. Capt. Cooper has been assigned to her command and a number of other officers to mann her selected. including Ensign Buck. The Atlanta, which has been overhauling at the same yard for a similar period, will be ready for commission one month later. The Chicago may be assigned as flagship of the fleet that will soon represent the navy on the European station.

OTHER CLAIMS BEFORE SALVAGE.

On November 10, 1895, the barge Levi Rawson, laden with lumber for Buffalo, was abandoned by her crew in a storm off Seul Choix Point, Lake Michigan, and later stranded there. The tug Protector, belonging to Edmund Hall, released the Rawson, towing her to Port Huron. In September, 1897, Mr. Hall libeled the barge for salvage. Shortly afterward the Mills Dry Dock Company, of Buffalo, filed an intervening libel for repairs made after the vessel had been taken off the beach, and Zimmerman Bros., of Marine City, another for supplies furnished also after the vessel was released and towed to a safe port. Mr. Hall's claim being a pure salvage claim, according to precedents, it was thought would rank ahead of all others. However, the sale of the barge only realized $1,225 or $1,058.25 after costs were paid, to be distributed to the claimants. Commissioner Davison, of Detroit, takes the position that the supplies furnished and the repairs made by the intervening libelants entered into the value of the barge at the sale and contributed to secure the sum realized. Therefore he has decided to award these intervening claims in full, amounting to $245, ahead of the salvage claim.

JULY RECEIPTS AND SHIPMENTS FOR THE CUYAHOGA DISTRICT.

The receipts of iron ore and shipments of coal in the district of Cuyahoga for the month of July were as follows: Ore, Cleveland, 395,824 gross tons; Ashtabula, 481,894; Conneaut, 246,236; Fairport, 179,907; Lorain, 68,585; total, 1,372,446 gross tons. Coal, Cleveland, 194,109 net tons; Ashtabula, 90,515; Fairport, 19,309; Lorain, 16,648; Conneaut, 8,721; total, 329,302 net tons. It will be observed that the receipts of ore at Ashtabula for the month were greater than those at Cleveland, also that Cleveland leads in the shipment of coal.

A HISTORIC WRECK.

After laying submerged for nearly half a century, H. W. Hubbell & Co., the dredgemen, raised last week the remainder of the wreck of the old steamer Independence, which was the first steamer to ply on Lake Superior and which was sunk through an explosion in the early fifties in the channel about a mile above the head of St. Mary's Falls canal. The wreck was encountered during dredging operations that are now being made. The boiler, the machinery and portions of the hull of the Independence, were recovered. The smaller pieces of the machinery and hull were eagerly carried off to be preserved as relics. A portion of the eccentric cover, the bearing surface of which was not even rusted by its nearly half a century's submersion in the water, was secured by the Sault Ste. Marie News.

THE NEW PIER AT DULUTH.

The new pierhead for the southerly pier at Duluth entrance has been placed. There are over 350,000 feet of timber in the crib—35 tons of bolts, 50 tons of steel plate, and when resting in position on the lake end of the new pier it will be ballasted with a load of 3,000 tons of stone. The pierhead is considerably larger than any of the other sixteen cribs, measuring 100x36 feet. The remaining cribs measure but 24 feet in width. When the cribs are sunk in the canal they will be 2 feet under water. On top of them solid concrete will be laid to the depth of 12 feet. On the larger pierhead will be stationed the new lighthouse.

The capacity of the dredges at work widening the canal is about 3,000 yards a day, and they have worked in about 800 feet from the lake entrance to the canal. The inside dredging has commenced, and will be pushed as rapidly as possible.

The construction of the concrete superstructure will require an enormous amount of work. Some idea of its immensity may be gained when it is known that each lineal foot in the pierhead will weigh 513,000 pounds. When both piers are built Duluth will have one of the finest harbor entrances in the United States.

Steamers of the Canada-Atlantic line are beginning to handle considerable west-bound freight. This week the Briton landed 700 tons of general merchandise at Milwaukee and the Saxon also landed 450 tons more.

SEPTEMBER STORMS AND STORM TRACKS.

(By Alfred J. Henry, Chief of Division, Weather Bureau.)

The atmospheric circulation in summer is more or less stagnant. Feeble storms or, more properly speaking, barometric depressions, pass over the lakes, attended by thunderstorms and, in some cases, sharp squall winds. With the advent of cold weather the circulation becomes more active, the feeble depressions of summer give way to vigorous storms that move rapidly across the country, frequently in quick succession.

The turning point in the character of the storms that visit the lake region is not generally reached until October, although at rather infrequent intervals severe storms occur in September, as in 1873, 1875, and 1878. The storm that swept over the lake region on September 9 and 10, 1875, was quite severe both as regards loss of life and property. As will be remembered by the older navigators the steam barge Equinox and the propeller Mendota foundered on Lake Michigan with a loss of 38 lives; the schooners Jno. Dunn and Onondaga, and the scow M. J. Gaines were wrecked at Chicago, involving a loss for the three vessels of about $50,000. Many other casualties occurred at various points on Lakes Michigan, Huron and Erie.

The storm of September 12-13, 1878, on the lower lakes, had its origin in the tropics, being one of the very few West Indian hurricanes that have reached the lake region. While tropical hurricanes occasionally move inland from the south Atlantic coast, their energy, on reaching the lake region, is generally exhausted. In the last 27 years, but three such storms have endured long enough to give high winds on the lakes, the one above mentioned being the most severe. The wind at Cleveland, averaged from 35 to 40 miles per hour from 10:40 p. m. of the 12th, to 8 a. m. of the 13th, when the maximum velocity of the storm, 48 miles, was reached. At Buffalo the gale of the 13th was of the most dangerous character; the wind blew in fierce gusts all of the afternoon, continuing throughout the greater part of the next day.

The dangerous storms on the Great Lakes in September, almost invariably come from some westerly direction. The violent winds are confined to the central portion of the storm which is generally as large as the lake itself, hence there is nothing to be gained by altering the course of the ship as might be advisable on the high seas.

A LONE ATLANTIC TRAVELER.

In a boat thirteen feet long, provisioned with canned goods and vichy, Capt. William Andrews sailed from Atlantic City, N. J. on Saturday last for a trip to Europe.

In his peculiarly constructed little craft, named the Phantom Ship, he sailed for the Azores, his intention being to leave there for the European coast.

Capt. Andrews does not know what fear means, and, fortified by past experience and a well-constructed craft, he expects to reach Europe within 60 days.

The interpid navigator says there is nothing experimental in the journey or voyage. This will be his fifth similar trip across the Atlantic, his first having been in 1878. His last voyage was in 1892, and it was one full of severities, or to say the least discomforts. But, aside from these minor details, he has always been successful to a remarkable degree, and he expects that his good fortune will attend him on his present cruise.

VESSELS CLASSED.

Vessels classed or rated this week, by the American Shipmasters' Association in the "Record of American and Foreign Shipping": Screw steamer Matanzas ex-Guido, owned by the New York & Cuba Mail S. S. Co.; side-wheel steamer Old Dominion, owned by the Old Dominion S. S. Co.; American three-masted schooner Jennie A. Stubbs; screw yacht Elreba, owned by Henry Darlington; screw steamer S. Oteri and Joseph Oteri, Jr., owned by S. Oteri, of New Orleans.

NEWS AROUND THE LAKES.

CHICAGO.

Special Correspondence to The Marine Record.

Grain freights remain on the basis of 1⅛ cents on corn to Buffalo.

Capt. John Prindiville chartered the steamers Hadley and Lansing, for clipped oats to Buffalo, 1 1/16 cents.

J. J. Rardon & Co. chartered the steamer John F. Eddy, for corn to Port Huron, at 1 cent; steamer City of London, for corn to Buffalo, at 1⅛ cents; steamer Mecosta and consort Ashland, for corn Milwaukee to Buffalo, at 1⅛ cents.

The steamer Ida E., Capt. F. Richardson, which arrived here Monday, with lumber and shingles, has made fifty-five round trips since she started out from Manistee on March 28, last, she having carried fifty-five loads of lumber from Manistee, as follows: Forty-seven to Benton Harbor, three to Chicago, two to Kenosha, one to Racine, and two to Michigan City.

At Miller Bros.' shipyard the tug Protection was in dock to have a leak stopped, wheel refastened and stern bearing repaired; schooner O. J. Hale had her fore and mainmasts taken out, decks repaired and calked and was given two new enlarged hatchways; steamer City of Kalamazoo for a new wheel; the schooner Wm. Jones some new bottom plank and calking; steamers H. L. Worthington and A. Weston repairs to stern bearings; the tug H. S. Sill had a leak stopped; tug J. H. Hackley repairs to shoe and stern bearing; schooner Magdalene for bottom calking; steamer Lawrence a new wheel; the steamer Samoa received some new ceiling, frames and outside plank forward.

Capt. A. B. Wolvin, of Duluth, accompanied by Mr. H. G. Dalton, of the Minnesota Steamship Co., Cleveland, visited this port on Monday and inspected the Maia, recently launched from the yards of the Chicago Ship Building Co. Both gentlemen expressed their entire satisfaction with the new craft, and without a doubt the Chicago Ship Building Co. have turned out a splendid piece of work and a credit to the lakes in the construction and equipment of the Maia. Mr. Robert Curr, who superintended the construction for her owners, will make the maiden trip on the new schooner and watch how she handles; also the working of her equipment, after which he will again resume business at Cleveland.

The stocks of grain in Chicago elevators last Saturday evening were 333,000 bushels of wheat, 5,697,000 bushels of corn, 458,000 bushels of oats, 144,000 bushels of rye, and 9,000 bushels of barley. Total, 6,641,000 bushels of all kinds of grain, against 18,112,000 bushels a year ago. For the same date the Secretary of the Chicago Board of Trade states the visible supply of grain in the United States and Canada as 5,927,000 bushels of wheat, 16,530,000 bushels of corn, 3,298,000 bushels of oats, 423,000 bushels of rye, and 297,000 bushels of barley. These figures are larger than the corresponding ones of a week ago by 77,000 bushels of wheat, 407,000 bushels of corn, 388,000 bushels of oats, 22,000 bushels of rye, and 41,000 bushels of barley. The visible supply of wheat for the corresponding week of a year ago decreased 1,256,000 bushels.

H. W. Cook & Co. chartered the steamer M. F. Sutters, for lumber, Menominee to Chicago; steamer Sanilac, for hardwood lumber, Empire to Detroit; schooner Apprentice Boy, for lumber, Manistique to Chicago; steamer Panther, for coal, Toledo to Milwaukee, and clipped oats, South Chicago to Buffalo; schooner Evaline, for lumber, Menominee to Chicago; steamer Escanaba, for steel billets, South Chicago to Buffalo; schooners Richard Mott and Clara, for lumber, Escanaba to Chicago; schooner Emily B. Maxwell, for lumber, Saint Ignace to Chicago; steamer W. H. Wolf, for corn, South Chicago to Buffalo; steamer Westover and consort Parana, for lumber, Sault Ste. Marie to Chicago, and consort Bliss, for lumber, Nahma to Chicago; schooner Minnie Stanson, for lumber, Cheboygan to Chicago; steamer New Orleans, clipped oats to Buffalo; steamer Fred. Pabst, corn to Buffalo; steamer Emma E. Thompson, for lumber, Marquette to Chicago; steamer Rand, for lumber, Marinette to Chicago; steamer John Otis, for lumber, Menominee to Chicago.

BUFFALO.

Special Correspondence to The Marine Record.

The Mary P. Hall, built and owned at Ogdensburg measures 144 tons.

Capt. Robert J. Crowley, has been appointed master of the steamer W. H. Gilbert.

The whaleback Alexander McDougall was obliged to lighten 33,000 bushels of her corn cargo at the Union Elevator before she could pass through the Michigan street drawbridge.

According to the Bureau of Navigation, Treasury Department, Washington, D. C., the new steel steamer Troy, built at Wyandotte, and hailing from Buffalo, measures 3,655 gross and 2,966 net tons.

The Northern Steamship Co.'s passenger steamers North West and North Land, will go out of commission for the season about the middle of September. The last sailing westbound will be on Sept. 11, and eastbound on Sept. 14. These popular boats have had a most successful season.

Capt. E. Roberts has qualified as master of the propeller Buffalo. Capt. N. McCormick is transferred from the Buffalo to the Harlem. Capt. Donald Gillies, formerly master of the Harlem, is to take command of the new propeller Troy, recently built for the Western Transit Co., to which the other boats belong.

The shipping interests of Buffalo were instrumental in having the Welland canal tolls reduced several years ago, and it is not likely that any direct opposition will be made against the further reduction or abolition of tolls now sought by the members of the Lake Carriers' Association, at least no such feeling is evidenced here at this time.

The death of Capt. Levi Hunt is announced from Eden, N. Y. Capt. Hunt began sailing on the Great Lakes when 15 years old and for thirty years he followed a sailor's life, making a voyage of three years in which he circumnavigated the globe. On a merchant ship plying between New York and Liverpool he was shipwrecked, after which he returned to the lakes and sailed as captain, having in his charge some of the leading steamers then afloat. He had spent the last thirty years on a farm and was in his 74th year when he died. He is survived by a widow and several children.

DETROIT.

Special Correspondence to The Marine Record.

The repairs to the steamer Edward Smith are nearly completed and she will be out of dry dock this week. Capt. C. E. Benham has watched the repairs very carefully in the interests of the owners Mitchell & Co., Cleveland.

The new wheat is not reaching Detroit as it was expected it would a week or two ago and the only reason is that the farmers are inclined to hold off for better prices, hence, chartering is very slow and not even up to last year's business.

The Oades marine railway and shipyard has been kept busy in handling the smaller class of tonnage. Of course they don't do work on the four thousand ton steel steamers, but a record was made there recently of a vessel every day for about three weeks.

No decision has as yet been reached as to the amount to be spent in rebuilding the Greyhound's engine and making alterations to the sidewheels, though it is more than probable she will be given feathering paddles. In the meantime the damaged engine is being taken out piece by piece.

A. W. Comstock, president of the Lumber Carriers' Association, delivered an address last week at the convention of longshoremen, held in Cheboygan, Mich. The delegates were unanimously in favor of lending all the assistance in their power to keep up fair living rates of freight, so that they also might receive fair wages for their labor in handling lumber cargoes.

Among recent shipments of Frontier tandem gasoline engines, by the Frontier Iron Works, are: One 60 horse-power to Norway, Mich., for a village electric lighting plant of 600 lights; one 40 horse-power to Bay City, Mich., one 40 horse-power to Ogdensburg, N. Y., one 40 horse-power to Wichita Falls, and several 25 and 20 horse-power engines the same type. The company claim for this engine a regulation equal to that of a steam engine, adapting it to electric lighting and similar duty at a decided economy of fuel and attendance.

The Grand Trunk car ferry Lansdowne, swept the upper works off the ferry steamer Fortune, as the latter was makher docks at Windsor, on Tuesday night. The Lansdowne was not damaged, and the port bulwarks and cabin of the Fortune can be replaced at a moderate outlay. The most skillful handling is observed in the cross river or ferry traffic, and even an occasional trifling damage is the exceptional case, although there is no doubt but that a clear and full understanding will be had regarding the coming together of the Fortune and the Lansdowne.

The records of the Bureau of Navigation, Treasury Department complied for the fiscal year ending June 30, 1898, show that 282 vessels, with an aggregate tonnage of 185,434 tons, were registered at Detroit during the year. Of these 104 were sailing vessels, 170 were steamers and eight were barges. The figures for the fiscal year 1897 show that 286 vessels were registered but that the gross tonnage was only 174,630 tons. During the past year three steam vessels of 3,108 aggregate tons, and five barges of 460 aggregate tons, were built, making a total of eight new vessels, with an aggregate tonnage of 3,568 tons.

A special from Harbor Springs, Mich., conveys the following interesting intelligence concerning Capt. James Reid's Cayuga expedition: "Wrecking operations on the steamer Cayuga, which lies on the bottom of Lake Michigan in 17 fathoms of water, are rapidly nearing completion. Capt. James Reid, is confident that he will have the wreck at this port inside of two weeks. There are now eight pontoons fastened to the Cayuga and last week a trial raise was made which resulted in the boat's being lifted out of the mud. The last pontoon is now being made fast and when that is accomplished it is thought the boat can be lifted at least enough to allow of towing her into shallow water."

It should be clearly understood that the brief filed by Don. M. Dickinson, with the American commissioners at the arbitration convention, now being held at Quebec, does not ask that the right to maintain warships on the lakes should be allowed, only that the right to build may be conceded, and from this standpoint alone it is thought that the measure will be successful as no pertinent argument can possibly be brought against the right to build. The Dominion of Canada has the question in their own hands, because no matter what was built it could only reach the coast through Canadian artificial waterways unless sent in sections through the Erie canal and that would not be much better than using the railroads for transportation.

Reports have been sent out, and chiefly from Cleveland, that Capt. James Davidson would build no more wooden vessels at his Bay City shipyard. Capt. Davidson is not slow in asserting that he has every faith in staunch, well-built, modern wooden vessels, and he points out that it is to the interest of steel shipbuilders to create impressions looking with disfavor on wooden tonnage. There is a telling feature which the captain does not neglect to bring forward in this connection and that is the repair bills for bottom damage as it takes place between metal and wooden vessels. The underwriters have to go down in their pockets for thousands of dollars in making repairs to the bottom damage of iron and steel vessels, while an occasional few hundreds is all that the risks on wooden vessels call for. Insurance agents may attempt to discriminate betweeu wood and steel built craft, but many are yet of the opinion that a good wooden vessel is a better and more economical risk than any metal vessel afloat. Capt. Davidson is not after the Wheeler yard at 25 cents on the dollar, either. He has about forty acres of land at his present site to do with as he wishes, and he is not aching by any means for a metal shipyard plant.

CLEVELAND.

Special Correspondence to The Marine Record.

Capt. Thomas Wilson, returned home on Thursday after a tour on Lake Ontario, with his family.

The official measurement of the new steel schooner Maia, hailing from this port, is 3,804 gross and 3,442 net tons.

The official trial trip for speed of the new revenue cutter Onondaga is reported as being very satisfactory. Under forced draft she made twenty miles an hour.

The ore rate at 50 cents Lake Superior, 40 cents Escanaba, is firm and likely to improve just as soon as grain charters get more brisk; coal rates are also firmer than they have been all season.

A part of the crew of the new revenue cutter Onondaga have been sent to the receiving ship Vermont, lying at New York. It is now expected that the Onondaga will remain at Montreal until next spring.

Mr. Watterson, formerly superintendent of the Ship Owners' Dry Dock Co., is enjoying a brief vacation, after which he will enter the employ of the Cleveland Ship Building Co. at the Lorain shipyard and dry dock.

As an indication of the way in which the Ashtabula ore docks are crowded it is noted that two large steamers were ordered to change ports this week to discharge their cargoes. The Neshoto and Merida were sent to Erie.

Dr. W. D. Carmichael, in charge of the marine hospital at this port, has been appointed superintendent of the marine hospital service of the Hawaiian Islands. He will be stationed at Honolulu, and will direct the work from that point.

Mr. A. A. Pomeroy is still engaged gathering data for an exhaustive history of the Great Lakes, to be published by Beers & Co., Chicago. The work is to be issued in two volumes and from every indication it will be all that its title implies.

Capt. Dunham, Chicago, president of the Lake Carriers Association and ex-president Capt. J. J. H. Brown, Buffalo, and Mr. C. H. Keep, Buffalo, secretary of the association attended the meeting of the Lake Carriers held at this port to-day (Thursday).

The price of ship plates is expected to advance about $2 per ton, advances having been made in other lines of steel manufacture. Parties placing contracts for new tonnage will find that figures quoted a year, or even a few months ago, cannot now be duplicated, on account of the rise in the steel market.

The new steel schooner Roebling, of the Bessemer fleet, broke all lake cargo carrying records this week by loading 7,865 net tons of iron ore. The best former record was held by the Fritz, of the same line, a sister ship of the Roebling, with 7,794 tons. The draft of the Roebling was 17 feet 6 inches, fore and aft.

The new steel steamer Hendrick S. Holden is now about completed at the yards of the Globe Iron Works Co., her builders; it is expected that she will be ready to load her first cargo in a few days. The Holden is one of the largest and best equipped steel steamers now afloat and is a credit to her owners and builders.

James Kenealy, late forecast official of the Weather Bureau at Duluth, will reach here next week to take charge of the Cleveland office, vice W. B. Stockman transferred to the West Indies. On leaving Duluth Mr. Kenealy was presented with a handsome gold watch, chain and locket by the officers and employes of the Federal building.

Capt. A. Oldorff, steamer Vulcan, left his vessel at Fairport last week, since which time nothing has been heard from him. He has been in the same employ for several years and was generally well liked. It is thought that domestic affairs have had something to do with his disappearauce. Capt. Wallace has taken charge of the Vulcan for the present.

With the three dry-docks at Cleveland under one management and the still larger dry-dock owned by the Cleveland Ship Building Co., at Lorain, there will seldom be any necessity for writing or wiring to engage a dry-dock ahead of time. This port was never in a better position to carry out speedy dry-dock and repair work and that too at rock bottom rates.

Mr. Robert Curr, having watched the construction, in the interests of the owners, of the steel schooner Maia, recently launched from the yards of the Chicago Ship Building Co., will return to Cleveland with his family, next week, at which time he will be open to take up the superintendence of other construction work in vessel building, damage surveys, repairs, etc.

Capt. Geo. P. McKay, manager of the Mutual line of steamers and chairman of the committee on aids to navigation, of the Lake Carriers' Association, is as prompt and aggressive as ever in locating marks, stakes, ranges, etc., and ferreting out the position of obstructions to navigation brought to his notice. There is no man on the lakes that has done more for safe navigation in this direction than Capt. McKay has.

"There are some men who never do seem to age up much," remarked a vessel-master this week. "Now there's Capt. Dan McLeod; take him for the last dozen years and he seems more vigorous and active to-day than he was ten years ago, and a younger man now than when he was manager of the Inland Lloyds' Classification Register, some years ago. I take it that Capt. Dan has freshened the nip in some way and taken a grip strong enough to halt over Father Time for a dog-watch or two. I'm glad though to see Capt. McLeod plugging along so well to windward, for there is not a squarer or fairer man on the lakes."

The launch at the Globe shipyards last Saturday afternoon was a perfect one. Miss Maud Wilmot daughter of R. W. Wilmot, president of the company for whom the Wilmot was built, performed the ceremonies in a most elegant and composed manner, though, spectators could hardly catch a glimpse of her figurehead for the profusion of roses with which she was embowered and held in position by Mr. Newman, who stood sponsor for his work on the Wilmot. The vessel's dimensions are: 156 feet 8 inches over all, 30 feet beam; 17 feet 6 inches deep. Her mean draught, when loaded for sea, will be 14 feet. She will have a coal capacity of 250 tons and 2,100 indicated horse-power. Her contract demands a speed of 20 knots. She will be placed in the Gulf of Mexico and coast wrecking, towing and salvage trade.

The following data, covering a period of twenty-six years, have been compiled from the Weather Bureau records at Cleveland, for the month of September. TEMPERATURE—Mean or normal temperature, 64°. The warmest month was that of 1881, with an average of 72°. The coldest month was that of 1883, with an average of 60°. The highest temperature was 98° on September 6, 1881. The lowest temperature was 36° on September 26, 1887. Average date on which first "killing" frost occurred in autumn, October 11. Average date on which last "killing" frost occurred in spring, May 1. CLOUDS AND WEATHER—Average number of clear days, 10; partly cloudy days, 11; cloudy days, 9. WIND—The prevailing winds have been from the southeast. The highest velocity of the wind was 54 miles, from the southwest, on September 13, 1892.

The loss of the steamer Superior, of the Bradley fleet, on Lake Michigan, last Sunday, is taken in a very philosophical, if not nonchalant manner, by her late owner. Mr. M. A. Bradley thought that the Superior was not much loss, in fact that the steamer hadn't been much account for some time past. It is almost pathetic though to notice the indifference of the owner of at one time the largest fleet on the lakes, to his present holdings. Mr. Bradley is rich, some would say immensely wealthy, his father's heart and business was bound up in shipping and he owned lots of it, at a time too when vessels were valuable property. Mr. M. A. Bradley has apparently been losing interest in his floating property for some years back, and has been making heavier investments than any other man in Cleveland real estate, power blocks and other large buildings. If anyone asked who was the owner of several large sky scrapers being erected at any time in Cleveland, he would be told it was a Bradley block, and so it continues. Mr. Bradley is one of the best business men in the State and knows at any time and all the time just what he is doing. All the same, there are a great many that would like to see some of his hundreds of thousands going into new construction at the shipyards instead of on the beach.

FLOTSAM, JETSAM AND LAGAN.

The old steamer A. C. Van Raalte, of Chicago, has been sold to C. R. Leihy, of Bayfield, Wis., for $2,500.

A fleet of lumber carriers is on the way to the head of the lakes. Duluth is selling a large amount of lumber to Chicago dealers.

Capt. James Liesk, of the steamer Helena, reports that 3,060 tons of hard coal were loaded on his vessel at Erie in one hour and fifty minutes.

The owners of the Mabel Wilson have libeled the coal cargo delivered by the vessel to R. P. Elmore & Co., at Wilwaukee, on a demurrage claim.

The question was asked: "Does a man get bald-headed through too much brain work? If so does that account for the women not having beards?" Too much jaw work.

Two sailors were knocked overboard from the schooner Delos De Wolf, opposite Sand Beach, on Thursday last. One of them was drowned before assistance could reach him.

The Carnegie Steel Co., Ltd., has been awarded the contract for furnishing 2,500 tons of armor plate for the Russian battleship that is to be constructed at the Cramp shipyard, Philadelphia. The contract price is $640 a ton. The armor will be made by the Krupp process.

The Sheriffs Manufacturing Company, Milwaukee, has shipped two 4-foot wheels, a right and left, to Milford, Del., for the steam yacht Delaware; a wheel of 9 feet 5 inches diameter and a new shaft to the tug Protector at Bay City, and a new crankshaft to the tug Lorain at Port Washington.

The collectors at Duluth and at Marquette and the deputy at Superior have been under the impression that where a foreign vessel cleared at one of these ports for another port a fee of $2 was chargeable. They are now informed by the Treasury Department that 10 cents only is the fee required.

The whaleback steamer James B. Colgate is having collision damage repaired at West Superior. Six plates, five of which are below the water line, must be rerolled. Whaleback 134 which was damaged in a collision at Two Harbors, is also at West Superior to have five plates above the water line taken off and rerolled.

The Booth fishing and packing syndicate, of Chicago, has been successfully organized with a large capital, to control the fisheries of the lakes. Toledo dealers, controlling a large section of lake fishing grounds, have combined as an independent association to prosecute their work outside the limits of the larger syndicate.

The citizens of Toledo want the city council to order the construction of a fire boat. It is almost incredible that a port like Toledo has no adequate fire protection along its water front, but now that the people have taken the matter up it is likely that a fire boat may soon be seen meandering around the banks of the Maumee.

A dispatch from Duluth says: "The new schooner Roebling, of the Bessemer fleet, broke all records for large cargoes with a load of 7,022 gross or 7,865 net tons of iron ore. The best former record was held by the Fritz of the same line, a sister ship of the Roebling with 7,794 net tons. The mean draft was 17 feet, 6 inches and she loaded on an even keel.

About fifty workmen are employed at the Wheeler shipyard in West Bay City, overhauling some of the machinery. This is taken as an indication that the Bessemer Steamship Company does not propose that the valuable plant shall long remain idle. There has been considerable speculation as to the disposition of the property, but no intimation has been made along this line.

The tug Deer, the last of what was once the largest fleet on the lakes, has been sold, and leaves Grand Haven. The Deer was bought from the Thomas W. Kirby estate, by C. C. Pennoyer, of Bay City, and will henceforth be used in fishing out of Au Sable. In the palmy days of Grand Haven's lumber trade Capt. Kirby owned 30 or more boats, styled the Michigan Barge Co. The Deer was the last of them to go.

President Dunham, of the Lake Carriers' Association, has received a letter from the secretary of the American commissioners stating that the matter of abolishing the tolls at the Welland canal had been brought before them, and they would welcome a further presentation of the subject. The secretary suggested that the commissioners much preferred written to oral hearing, but intimated that if the Lake Carriers desired the latter, a delegation would be received.

The foreign trade of the Northern line steamers is quite extensive. Cargoes are continually going through Superior, from as far away as Germany, and going west even to Japan. Four cars of foreign goods were on Saturday taken off one of the liners and transferred to the railroad. Two of these cars were of German porcelain goods bound for firms in Seattle and Portland. One car of burlap went out to Washington and one car of music ware from Germany consigned to music dealers in St Paul.

A cable from Tromsoe, Norway, under date August 30, states that the steamwhaler Fridijob, having on board Walter Wellman, and members of his expedition to Greenland, has returned after landing an expedition at Cape Tegathoff, on the southern point of Hall's Island. While the Wellman party were returning they met the expedition to Franz Josefland, under Dr. A. G. Northorst, at Kœnigskar Island, and were informed that all search for Prof. Andree, the missing balloonist, had proved futile.

It is reported that the Herreshoffs have received a contract to build a cup defender, and that the material for her construction has been ordered and the design decided upon. The price is stated to be $150,000. It is also stated that a designer of the Herreshoffs is at work on the plans for a second defender at his office in Philadelphia. It is asserted that either Commodore Morgan of the New York Yacht Club or C. Oliver Iselin is at the head of the syndicate which placed its order with the Herreshoffs.

Fifty members of the Milwaukee Seamen's Union held an executive meeting on Tuesday, regarding wages for the fall months. The officers of the union refuse to give out anything pertaining to the meeting, but one of the men said the sailors were now getting $1.50 per day, and wanted an advance. Several captains have announced that they would tie up their boats rather than pay an advance. They say the boats have lost money already this season on account of low rates of freight, and they cannot therefore stand any advance in wages at this time.

Conneaut, Ohio, is the banner port of Lake Erie for dispatch in unloading ore vessels. All previous records were broken on Monday. In 12 hours' time 13,247 tons were transferred from vessels to cars and to the dock. Of this amount only 400 tons went on docks. This is the largest amount of ore ever handled by a dock company on Lake Erie or elsewhere in the world, and is a record of which Conneaut ought to feel highly elated over, and more so as the port is yet in its infancy, compared with several other Lake Erie points of destination.

DETROIT MARINE POST OFFICE.

LETTERS REMAINING ADVERTISED IN DETROIT, MICH., POST-OFFICE SEPTEMBER 1, 1898.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Black J. H.
Bullis Frankie
Burdick Jennie, 2, Sch. Herschel
Baker Samuel
Britz Peter
Beebe Fred
Conner James H., Str. Alaska (wooden)
Coyle Thos. J.
Cole Walter O., Str. J. Emory Owen
Dupine Joseph, Str. Iron Duke
Drake Archie E.
Fry Jas. S.
Gallagher Wm. F.
Gennaro Angus
Golder Frank, Sch. O'Neill
Hansen John, Str. Sitka
Hillman Edward E, Sch. John Martin
Hasler August
Jordan Wilson M., Str. Hiawatha
Kollisch Josie
Leng Wm., Str. Lagonda
Logan Jos., Str. Argo
Laing F. W., 2, Str. Lagonda
Lyons Chas.
Martin Peter
McDonald Willie J., Sch. Wadena
McOmber Mrs. S. G.
McDermand Frank, Sch. Kilderhouse
Nellett Charles
Perroult Walter T., Yacht Minx
Parker F. B.
Patterson Wm., Str. Uganda
Pratt Wm.
Ramsey W. T., 2, Sch. Armenia
Ray Mrs. Jos., Str. Oglesby
Renpore John
Ralston Charlie, Str. Cook
Stocklen A.
Spooner James
Tart Eddie
Taylor Wm. H., Sch. Vinland
Villean Peter, 2, Str. Fedora
Vallarde Wm.
Woods John, 2, Str. Nicholas

F. B. DICKERSON, P. M.

ASTRONOMICAL DATA FOR SEPTEMBER.

The following astronomical data for September, is furnished the MARINE RECORD by the Washburn observatory, Wis.: Mercury passes through inferior conjunction September 5, becoming a morning star. It reaches greatest elongation west September 21, and will rise on that date at 4:13 a. m., a little north of the east point of the horizon. Venus is the evening star and is still increasing in briliancy. The planet reaches greatest elongation east September 21. It has been making south also, rapidly, and on that date will set at 7:30 p. m. on the southwest horizon. Mars appears high in the eastern sky in the morning and rises from 11:35 to 10:55 p. m. Jupiter will soon be lost in the daylight. On September 1 the planet sets at 7:50 p. m. near the west point of the horizon. Saturn is low in the southwestern sky in the evening and sets from 10:20 to 8:30 p. m.

The times of sunrise and sunset for the month at Milwaukee are as follows:

	SUNRISE.		SUNSET.	
September 1,	5 hours,	16 minutes.	6 hours,	26 minutes.
September 11,	5 "	27 "	6 "	9 "
September 21,	5 "	38 "	5 "	51 "
September 30,	5 "	48 "	5 "	34 "

The times of the moon's phases are:

Third quarter,	September 7,	4 hours,	51 minutes,	p. m.
New moon,	" 15,	6 "	10 "	p. m.
First quarter,	" 22,	8 "	39 "	p. m.
Full moon,	" 29	5 "	10 "	p. m.

The principal fixed stars visible during the month in the evening hours are: To the west, Arcturus and Vega; near the meridian, Altair; to the east, the bright stars of the constellations, Andromeda and Cassiopeia.

NAVAL RULES OF WAR.

It often happens that a vessel captured on the high seas is retaken by a friendly cruiser. To whom does the property then belong?

This leads to a brief discussion of what is referred to by writers as jus postliminii, a term taken from the Roman law, which in many ways has done pioneering work for International Law. The jus postliminii has to do with the right of the original owner of the property after the recapt ure. In order to ascertain this, it is necessary to trace the vessel's history through the time which has expired since it first came into the enemy's hands.

By common consent of the powers, a vessel after it has been twenty-four hours a prize becomes the property of the belligerent State that has captured it. This is clearly shown by rules which grant larger salvage to rescurers who retake the vessel before such a period has elapsed than afterwards. Yet it is safe to say that the title does not become absolutely the enemy's until a prize court has passed judgment, and that, if a recapture be made before the vessel is regularly condemned, the party whose property was thus wrested away may upon payment of salvage demand that which is lawfully his. Meanwhile, an adjudication of the court which finds the vessel to be a lawful prize, should certainly cut off any lingering title that the original owner might have possessed. —From "Capture Upon the Sea," by Daniel Chauncey Brewer, in North American Review for September.

THE Army and Navy Year Book rates the navies of the world as follows: 1, Great Britain; 2, France; 3, Russia; 4, Italy; 5, United States; 6, Germany; 7, Spain; 8, Japan; 9, Austria; 10, Netherlands. Under present naval contracts Japan in 1899 will go to the fifth place, crowding down the United States and Germany one point.

IS THERE ANY EXCUSE FOR COLLISIONS AT SEA?

MEANS FOR DETECTING THE PRESENCE OF A VESSEL OR AN ICEBERG; HOW THEIR MOVEMENTS MAY BE FOLLOWED.

(Communicated.)

The recent Bourgogne disaster in which hundreds of unfortunate passengers and members of the crew found a watery grave has shocked the entire civilized world. The horrible tales as related by the survivors will not soon be forgotton. This blot may never be washed away.

Some years ago I witnessed a collision about sixty miles off the coast of England. It occurred at about 8 o'clock in the evening with the moon brightly shining. We were towed into an English port where we remained three days until the damage was repaired. This was comparatively a trivial affair, as no lives were lost, but the scenes on board gave me an idea of how easily a few persons losing their self-control may affect a large crowd. It is hard to describe the strain one undergoes when in such a position, with escape from impending danger apparently cut off.

The average person lacks coolness of mind in such critical moments, and in losing self-control shakes that of those so far unaffected. It seems to me that travelers should be made familiar with the safety appliances on board, and I venture to express the hope that the Bourgogne disaster will not only cause the different navigation companies to give to their patrons practical lessons in using and applying such expedients, but also such further information as may be of benefit to them in case of accident. The matter of lifeboat improvements seem highly desirable and particularly to quick and efficient means for launching them. Many lives are lost just on account of this deficiency. It should be made compulsory for each vessel to have a total carrying capacity of their lifeboats exceeding by 10 or 20 per cent. the maximum number of passengers carried.

This Bourgogne disaster has stimulated within me the desire of finding some such suitable means whereby collisions at sea may be avoided.

Before entering into a discussion of these, it may be in order to mention a few methods of signaling now in use. Among the auricular signals we have with an approximate hearing distance in miles the following:

The air siren	10–12	miles.
The steam siren	8–10	"
The trumpet	6	"
The bell	1	mile.

This hearing distance is, however, not constant, and depends upon many conditions referred to hereafter.

For receiving the sounds the eophone, topophone or similar instruments have been employed with more or less success, the object of these instruments being to furnish a means whereby to determine the direction from which the sound proceeds. The eophone consists of two bell-shaped receivers separated by a central diaphram, the further end tapering down and being connected with ear tubes. The whole is mounted in a suitable manner whereby it is possible to point the open ends in any direction desired. If the receivers point in the direction of the sound then each ear will receive it with the same intensity.

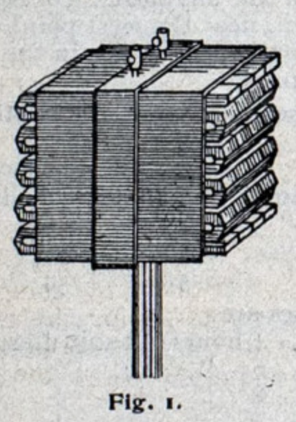

Fig. 1.

Fig. 2.

Under existing conditions it is necessary that both vessels be active, not only in giving signals, but also in attempting to intercept them. The safety of a vessel consequently not only rests with its own crew but largely depends upon the watchfulness of the other vessel. A good deal of blind confidence is therefore required. Yet it is not this alone which makes navigation dangerous during a heavy fog, it is made much more so on account of coinciding circumstances which as yet are not fully understood. At times it is impossible to perceive the phonorous signals when the steamer is nearby, while the signal was plainly heard from some larger distance. As to the cause of this surprising interruption (seeming) in the propagation of sounds, investigations have been carried on by the United States, Germany and France. The investigations made by Major Livermore in compliance with the United States Admiralty have thrown some light upon this subject. It has been deduced that obstructions to sound or an irregular formation of the coast not only materially affect the strength but also the propagation of the same. Obstructions behind the course of the sound will reinforce the sound in a similar manner as a screen will reflect a light. Rain and snow will have a great influence upon the direction of the sound.

It has been observed that under certain conditions, a sound could not be heard near the surface of the water, while it was heard plainly some distance above it. In one experiment Major Livermore's vessel had, she was placed in such a position that the blowing of whistles, even the report of a cannon was heard at one end of the vessel most distinctly, while it was impossible to hear any sound at the other end although the steam or smoke could be seen to arise. It seems therefore, that under certain conditions, sound waves may be projected upward to descend again at some distance and finally take up their original direction. No doubt, this remarkable interruption has caused many accidents.

At the first thought it seems that wireless telegraphy would meet all requirements. Reflecting upon this will soon convince us that each and every vessel afloat would have to be equipped with a complete set of apparatus, even if their use were made compulsory. Then again would the safety of a vessel largely be dependent upon the other vessels, although by the introduction of this kind of apparatus navigation would be made safer, the location and

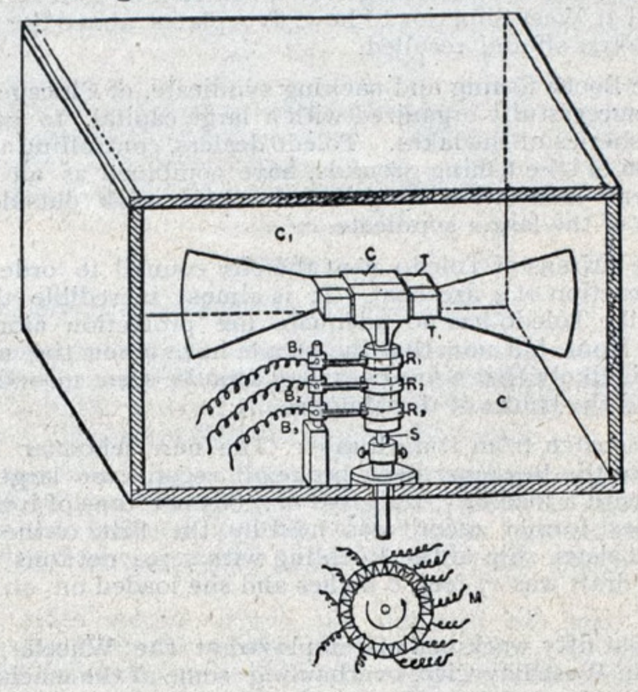

Fig. 3.

movements of other vessels could nevertheless not be determined. Besides the vessels there are icebergs and floating wrecks. Taking all in all it is desirable to find a means which will indicate the nearness or approach of any object.

It is well known that any object, when its temperature is higher or lower than that of the atmosphere surrounding the same, will either send forth heat radiations or absorb heat from its surrounding medium.

If we can construct an apparatus which is acted upon by heat radiations, and if the apparatus be of such sensitiveness that it will intercept and indicate them, even if they be exceedingly weak, then we need not depend upon our ear or eye to locate the same.

A modification of the thermopile or the radiophone may be employed for this purpose.

A few remarks pertaining to these may be of interest: Subeck in 1822, discovered that an electric current is set up in a closed circuit, made up of different metals, as long as the junctions would be maintained at different temperatures.

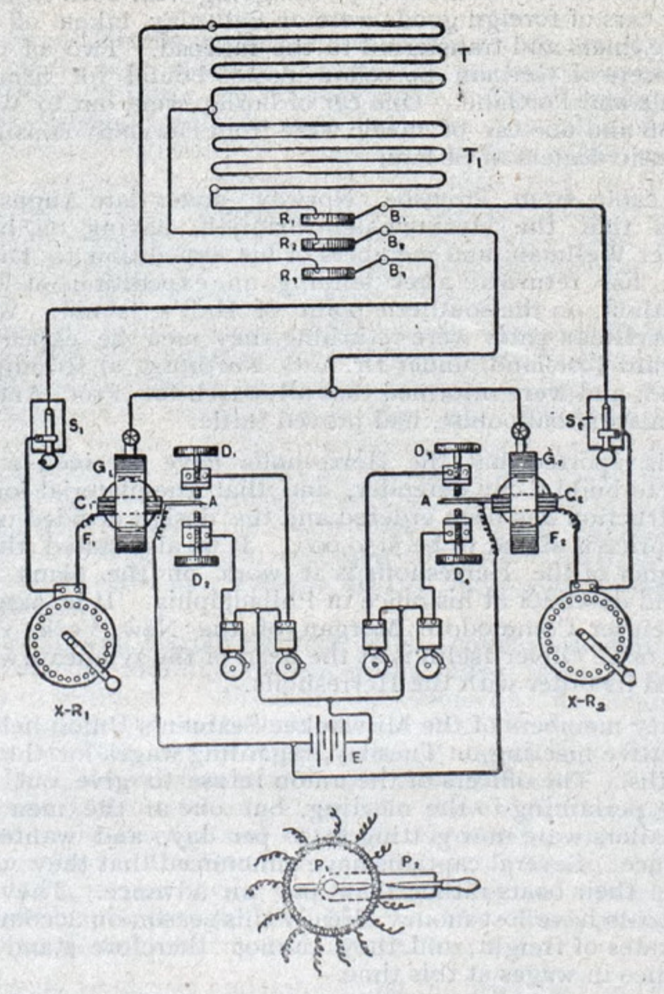

Fig. 4.

The best effects have been subsequently obtained by the use of antimony and bismuth.

Figure 1 shows the assembly of suitable metal strips, surrounded by an insulating casing, forming the thermopile. The free ends of the metal strips are connected to binding posts.

Figure 2 shows such a thermopile, rigidly supported, and provided with a conical attachment, which is blackened in its inner surface. It serves the purpose of concentrating the radiations upon the exposed face of contacts, in that way augmenting the effects.

Figure 3 shows part of an apparatus, as proposed by me, to the end of detecting the approach or nearness of any vessel, iceberg, or obstruction. The two thermopiles T and T 1, are surrounded by an insulating casing C, and are attached to a shaft S, which may be reversed slowly. The insulated rings R 1, R 2, R 3, serve to establish a permanent connection of the thermopiles with the brushes B 1, B 2, B 3, from where wires may be led to the pilot-house to the observation or indicating apparatus. The thermopiles are enclosed over a suitable compartment, such as to exclude all air currents, and to afford protection from the radiations of the sun and the vessel itself. For this reason the whole is mounted on the outer side of the vessel. It may therefore be necessary to have one set of apparatus at each side of the vessel, to afford proper protection. A flat, ⊃ shaped double walled casing (not shown) surrounds the compartment C 1, The outer chamber of the former is filled with alum, or other heat absorbing solution for the purpose of intercepting radiations due to the rays of the sun, either striking directly or being reflected from the water, and also for intercepting those which are emitted from the vessel itself. The inner chamber may be attached to a continuous water supply so as to remove all heat which the alum cell may have absorbed, and also to maintain the chamber C 1 at a constant temperature.

Figure 3 shows a diagram of connections. A junction of two of the free ends of the thermopiles T and T 1 is led to the middle ring, and thence over the brushes to the two galvanometers G 1 and G 2, here shown, of the D'Arsonval type. The other terminals of the galvanometer coils C 1, C 2, connect through adjustable resistances X R 1, X R 2, and switches S 1, S 2, to their respective outside rings R 1 and R 3. For observation a galvanometer may be employed, or perhaps an automatic indicating apparatus, as shown on figure 4. A light aluminum arm A, fastened to the movable galvanometer coil, swings between two adjustable contacts, D 1, D 2 or D 3 and D 4. A local circuit, including batteries E and bells is completed, should this arm be turned through a small angle. For indicating the exact position of the thermopile, a large number of contrivances may be constructed. In these it should be arrived at to have a position indicator P, operated by the same current which revolves the thermopiles.

Suppose now, that in foggy weather, when we cannot see, when we are in fear of being deceived by the sound, we start this apparatus and remain ourselves independent of the watchfulness of other vessels, if the temperature within the chamber should be constantly corresponding to that of the surrounding atmosphere, making allowance for radiations just referred to.

A vessel approaches. We are not aware of it. The radiations given out by the same are too weak to affect the apparatus. We come nearer each other. A stronger current is set up in one of the thermopiles at the moment it points in the direction whence the radiations proceed. Instantaneously the galvanometer coil is slightly turned, the aluminum arm makes contact and causes one of the bells to give a short ring. This happens once at every half revolution as then the second thermopile becomes active. As the distance between the vessels diminishes, the effect will naturally increase and a contact is made covering a longer period of time. Watching the position of the slowly nearing position indicator P at the moment the bell rings and simultaneous by cutting out one of the thermopiles by switch S1 or S2, will immediately give us an approximate knowledge of the direction from which the vessel is approaching us. To obtain a more accurate knowledge the adjustable resistance may now be manipulated. It being in circuit with the galvanometer, the current from the thermopile will, of course, be cut down under normal conditions; i. e., with the resistance cut out the bell will operate for a certain length of time, depending upon the amount of radiations sent forth from the nearing vessel as well as the time of exposure to their influence. This again depends upon the speed of the revolving thermopiles. The purpose of the resistance then is to cut down the action of the thermopile to such extent that the aluminum arm makes contact only at the instant the maximum current is being produced. As this can occur only when the thermopile points directly towards this strange vessel, its position is immediately ascertained by simply moving the contact lever until the bell gives the shortest obtainable ring. For all ordinary purposes the observation of the slowly moving position indicator arm P will therefore be sufficient. A small adjustable pointer P2 which may be swung around the outside casing of the position indicator, may serve to fix this position.

By the increased or diminished action of the thermopiles we know whether a vessel approaches or whether it recedes by watching the position indicator. We know whether the vessel is moving towards the right or towards the left. These means therefore enable us not only to ascertain the presence of a vessel, but also to follow its movements, and all this is accomplished by simply adjusting the vibrator, listening to the bell and watching the position indicator.

Safely passing the vessel we now come near an iceberg. The effect is the same as before. The current produced is, however, now flowing in the opposite direction, causing the coil to turn the opposite way and also a different bell to give its warning signal. It is possible therefore to tell the nature of the obstruction, whether it be a vessel or an iceberg. In the case of a floating wreck more difficulty is to be expected as its temperature will not differ very much from that of the surrounding atmosphere. It may, however, be that if its entire exposed surface as in moist condition a sufficient fall in temperature is produced to affect the apparatus and to do

likewise on account of radiations given out due to exposure to the rays of the sun. For the same reasons it may also be possible to tell when nearing a coast.

The double thermopile is proposed for the purpose of increasing the action of the apparatus as then it is possible to revolve the same at a slower speed, in that way giving a longer exposure to the radiations. At the same time the vessel is better protected. A combination of four of these would undoubtedly improve the effects considerably as the speed may then be cut down still lower. A plurality of thermopiles suitably arranged would not require to be reached.

The indicating apparatus, i. e. the galvanometer should preferably be mounted so as to be free from vibration and in a similar manner as that employed with the compass to make it independent of the ship's motions.

Now a few remarks touching upon the radiaphone.

Berzelius in 1817 discovered the selenium. Knox in 1837 found that it was an electrical conductor. May discovered that its conductivity is much influenced by light. In their experiments most physicists used the galvanometer while Bell used the telephone. Bell and Painter subsequently constructed the photophone, its receiver consisting of metal discs insulated from each other and covered with selenium. A ray of light—reflected from a mirror diaphram against which is spoken—after passing through suitable concentrating lines is reflected to a distant parabolic concave mirror and thence unto a selenium cell, which is in circuit with a telephone receiver and battery. Sound was in this manner transmitted over a beam of light. Later experiments showed that sound can be transmitted more efficiently by non-luminous heat rays. Mercadier then constructed the radiaphone. In this instrument soot or lamp-black is made use of, forming a bridge between the two electrodes which are in circuit with battery and telephone. In some experiments Graham Bell used a bottle or test tube, covered or filled with soot. Throwing the focussed light on these would produce a sound if the rays be of an intermittent nature.

It is a fact then, that heat rays will affect the conductivity of such radiaphonic apparatus. Whether their application to the above end could be accomplished seems at this moment difficult to answer. If their sensitiveness can be brought up to that of the thermopile, and if no serious mechanical difficulties be met in maintaining the soot in the proper place, then it would become a simple matter to also apply such radaiphonic apparatus for the purpose stated.

My first conception of applying these means dates back to July 7, 1898. I will not commit myself in stating that such methods as outlined above are absolutely feasible under all conditions ; nevertheless they appear worthy of a careful perusal, study and experiment. Certainly a large number of factors must be dealt with in the attempt of solving this problem so fascinating, interesting and what is more, of such vital importance.

The effects of winds, whether warm or cold, moist or dry, blowing toward or away from us and at different intensities; the effects of the Gulf stream, the absorption of radiations due to the above, rain, snow or fog—all these may require investigation.

On account of the extreme sensitiveness of the thermopile and the galvanometer, I am led to believe that the attainment of the end in view is a possibility.

Seeing all the possibilities, I most heartily advance these rather incomplete ideas and hope that the press here as well as abroad will contribute its share in discussing this subject. I also express the hope that all those interested will not withhold their opinion, and further, that influential parties will lend their aid to bring about a solution of this problem.

Preparations are being made for making the necessary investigations and building the apparatus herein described.

HERMANN HERBERTS, Newark, N. J.

TREASURY DECISIONS RELATING TO VESSELS.

VESSELS ON GREAT LAKES.

Foreign vessels proceeding coastwise on Great Lakes.

TREASURY DEPARTMENT, August 23, 1898.

Sir : This department is in receipt of your letter, dated the 17th inst., in which you state as follows, regarding the action to be taken in the case of foreign vessels going from port to port on the Great Lakes :

Referring to Synopsis 19786, subject "fees chargeable for permits to Canadian vessels," and the correspondence which called it forth, it is respectfully submitted that the above decision seems, first, to reverse Synopsis 17189, and second, to annul the regulation providing for a fee of $2 for "post entry," at least in effect, in such cases. The Collector of Customs at Duluth, in his letter to the Honorable Secretary, under date of July 12, 1898, asks the following question : "Shall a fee of $2 be required for granting a permit to a Canadian boat to proceed to Superior from here, in another district, to begin loading on a cargo for a foreign port, the vessel leaving here light, or having on board part of a foreign cargo for a foreign port?"

The collector at Duluth then adds : "After the vessel has loaded at Superior she comes back to Duluth, under permit, for additional cargo, and obtains final clearance for Canada." The decision of your office, Synopsis 19786, August 1, inst., seems to cover only the question as it would stand without the added statement—i. e., it assumes that the vessel will clear from Superior for a foreign port ; whereas the collector at Duluth states that she goes again to Duluth, and "clears for Canada" from there. Under Synopsis 19786 the vessel would clear from Duluth for Superior under Cat. 483, "Coastwise clearance and permit ;" and upon her return from Superior to Duluth she would again clear from Superior under the same Cat. 483, paying 10 cents each time. After completing cargo at Duluth finally, and ready to clear for Canadian port direct, does she pay the "post entry" fee of $2? If so, where does Cat. No. 504¾ come in? And, if not, when and where does she pay this fee?

The North-Western Transportation Co. denied the right of the collector at Duluth to charge this fee on clearance from Duluth to Superior (in which I believe it is right), and denies the right of my deputy collector at Superior to charge it on clearance from Superior to Duluth (in which I believe it is wrong), and cites your recent decision, Synopsis 19786. Is not this absolute reversal of Synopsis 17198? If this Canadian vessel takes on part of a cargo at Superior and desires to return to Duluth, should not the customs officer at Superior require the "post entry" to be made on manifest, and collect a fee of $2 on issuing permit Cat. 483? Is not the ruling in Synopsis 19786 confined to coastwise "Clearance and permit?" If the Canadian vessel leaves Duluth light for Superior and there takes on partial cargo and desires to return to Duluth or any other port in another district, must not her manifest have "post entry" made and the fee of $2 be paid at Superior and permit under Cat. 504¾ be granted?

You are informed that no fee of $2 is authorized by law under the circumstances you mention, upon the northern, northeastern, and northwestern frontiers of the United States for granting permit to a foreign vessel to proceed coastwise.

The act of July 5, 1884, provides—

Sixth. For certifying manifest, including master's oath, and granting permit for vessel to go from district to district, 10 cents.

Eighth. For receiving manifests, including master's oath

Hermann Herberts,
Newark, N. J.

on arrival of a vessel from one collection district to another, whether touching at foreign, intermediate ports or not, 10 cents.

Decision 19786, you cite, is in accordance with the act quoted ; is correct in authorizing a fee of 10 cents only, and does not reverse decision 17198, which, in view of the act of July 5, 1884, so far as it authorizes a fee of $2 for permit to a foreign vessel to proceed coastwise, must be confined to such vessels upon waters other than those on the northern, northeastern, and northwestern frontiers.

You appear to be under some misapprehension as regards "post entries". A "post entry" is defined in section 2887 of the Revised Statutes. It provides for joint action in certain cases of accident or mistake in the case of manifests. "Post entries" are not necessarily involved in cases like the present; and, so far as the Department understands, they have no bearing on the case. Respectfully yours,

W. B. HOWELL, Assistant Secretary.

Collector of Customs, Marquette, Mich.

WAR TAXES ON SHIPPING, NO. 6.

TREASURY DEPARTMET,
BUREAU OF NAVIGATION,
WASHINGTON, D. C., August 23, 1898.

To Collectors of Customs and others :

In accordance with decisions of the Commissioner of Internal Revenue, and after consultation with his office, the following mentioned documents pertaining to shipping are held to be exempt from tax under the war-revenue act of June 13, 1898 :

Owner's or master's oath concerning repairs of vessels.
Oath on registry.
Oath of officer of incorporated company.
Owner's oath on enrollment.
Master's oath for license.
Oath of managing owner.
Oath on licensing yacht.

T. B. SANDERS, Acting Commissioner.

Approved :
W. B. HOWELL, Assistant Secretary.

NAMES OF VESSELS.

Vessels original name must be retained on registry in the United States.

TREASURY DEPARTMENT,
BUREAU OF NAVIGATION,
WASHINGTON, D. C., August 17, 1898.

Sir : This office is in receipt of your letter, dated the 15th inst., inquiring whether, in case a foreigner purchase an American documented vessel and change her name under a foreign flag, she will retain the new name upon being subsequently purchased by an American citizen.

You are informed that the original name of the vessel under the laws of the United States must be inserted in the new American register, unless a change be specially authorized under the laws of Congress applicable.

Respectfully yours,
T. B. SANDERS, Acting Commissioner.

MR. B. F. CLYDE, New York., N. Y.

NOTICE TO MARINERS.

DOMINION OF CANADA—ONTARIO.

OFFICE OF MARINE AND FISHERIES,
OTTAWA, CANADA, 12th August, 1898.

MISSISSAUGA ISLAND LIGHT.—With reference to Notice to Mariners No. 39 of 1898, notice is hereby given that the revolving light is in operation as heretofore.

DESTRUCTION OF PORT DALHOUSIE MAIN LIGHT-HOUSE BY FIRE.—The main or back range light-house at Port Dalhousie, Lake Ontario end of Welland canal, was struck by lightning this morning and has been burned down. Until further notice only the front range light, on the outer end of the east pier, will be maintained.

F. GOURDEAU,
Deputy Minister of Marine and Fisheries.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—MICHIGAN.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., August 27, 1898.

LIMEKILN CROSSING LIGHT-VESSEL (SOUTH), NO. 64.—Notice is hereby given that, on or about August 29, 1898, this vessel, moored at the west side of the south end of Limekiln Crossing dredged channel, Detroit river, having been damaged by collision with a passing vessel, will be withdrawn from her station for repairs.

During her absence a temporary light will be shown from a lantern on a float moored in the position usually occupied by the light-vessel.

By order of the Light-House Board:

RUSH R. WALLACE,
Commodore U. S. Navy, Chairman.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset by reversing the east bearings given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting:

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise.	Bearing.	Bearing.
September 2	E. 10° N.	E. ⅞ N.
September 5	E. 9° N.	E. ¾ N.
September 8	E. 7° N.	E. ⅝ N.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Sunrise.	Bearing.	Bearing.
September 2	E. 11° N.	E. by N.
September 5	E. 9° N.	E. ¾ N.
September 8	E. 7° N.	E. ⅝ N.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Bearing.	Bearing.
September 2	E. 11° N.	E. by N.
September 5	E. 10° N.	E. ⅞ N.
September 8	E. 8° N.	E. ¾ N.

LAKE SUPERIOR, LAT. 48° N.

Sunrise.	Bearing.	Bearing.
September 2	E. 11° N.	E. by N.
September 5	E. 10° N.	E. ⅞ N.
September 8	E. 8° N.	E. ¾ N.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied, will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

TEN years ago the schooner Owasco collided with the steamer Minneapolis off Bar Point, at the mouth of the Detroit river. The schooner was badly damaged, while the steamer was only slightly injured. Six years later a suit was brought and on Friday Judge Swan filed his decree at Detroit dismissing the libel and giving costs for the defendant, thus throwing the blame on the schooner.

MARINE RECORD

ESTABLISHED 1878.

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CLEVELAND, O., SEPTEMBER 1, 1898.

PASSENGER steamers, also a majority of cargo steamers are doing away with all top hamper, even a few cloths of fore and aft canvas are not allowed these days. It appears though, that as fast as the top hamper came down, decks commenced to fill up, and, starting from the large metal light-houses on the top gallant forecastles of the Atlantic liners, there is hardly a foot of space to look over the side or bulwarks as life boats are strung along clean fore and aft. Given a head wind blowing at the rate of ten or fifteen miles an hour, with the vessel steaming at the same rate, wonder what the surface resistance on the fleet of boats usually carried by an Atlantic liner would amount to? We opine that the most expensive equipment carried backwards and forwards across the Atlantic is these same boats. They must be carried though, yet, as we have said, expert figures on their surface resistance would be an interesting data, or is there as much gained with a fair wind as is lost during a head wind, the fair wind though would have to mean Yankee slants, wind flirting from one quarter to the other, for a beam wind would be nearly as detrimental as a head wind, in so far as surface resistance is concerned.

WHATEVER the Lake Carriers' Association undertake to accomplish for the general welfare of commerce and transportation, they usually succed in bringing about. In this connection, the meeting held at Cleveland to-day, looking towards a unanimous expression of opinion regarding the abolition of Welland canal tolls, meets with the approval of the most prominent lake carriers; and such a brief will be presented to the Quebec International Conference, as to show the broad grounds on which the request for an abolition of tolls is at this time for the best interests of the west and northwest country, and its produce as well as imports. This feature applies with equal force to settlers in the northwest provinces of the Dominion as it does to the citizens of the United States located in the far west. The question to to our mind simply resolves itself into the fact, that the greatest good would, by the abolition of the canal tolls, be granted to the greatest number, and any deviation from this path would be to minimize the probable, if not positive, advantages which would be derived from granting a free and untrammeled waterway from the coast to the head of lake navigation. No personal, narrow, or one-port obstacles should be permitted to stand in the way of this grand step in the advancement of commercial activity, and, if the United States can experience a great good from the abolition of the Dominion canal tolls, then we can with much grace permit the Dominion of Canada to also receive a portion of our prosperity.

THE AMERICA CUP.

Once more the Britishers will enter the contest to capture, if possible, the America cup. The preliminaries are arranged and the season of 1899 will witness this most exciting episode in the annals of international yacht racing.

The challenger this time is Sir Thomas Lipton, a member of the Royal Ulster Yacht Club, and the challenging yacht is to be the masterpiece of Fife, the Scotch designer. The American representative will be a sloop constructed by the Herreshoffs, of Bristol, R.I., for J. Pierpont Morgan and C. Oliver Iselin. The last-named yachtsman has been intimately connected with the work of defending the America cup for a number of years, and the success which has thus far attended his efforts will encourage the hope that the defense yacht will be able to keep the famous trophy on this side of the Atlantic as we have been enabled to do in the past.

This race is no longer considered as a trial between keel and centerboard yachts, for it is now generally acknowledged that each type is best suited for their own particular sailing or waters. It has never been disputed that the centerboard is the swiftest craft in smooth water, while the keel yacht is essentially a cruiser and better able to stand heavy, lumpy seas and continuous hard weather. Of course the hull that has to cross the Atlantic is now, and must always be handicapped, inasmuch as it is absolutely necessary to build a stiff, seaworthy craft to cross the ocean, that is, at the expense of the elasticity, give and take, of hull and rigging so vital to a successful racing machine.

In the last race so gloriously won by the Defender against her antagonist the Valkyrie, the utmost interest, if not excitement regarding the result was felt throughout the United States, and it is safe to say that the coming race will also claim the attention of those outside of immediate sailing and yachting circles. It would be interesting at this stage to know the exact condition of the hull of the Valkyrie after crossing the Atlantic twice and putting up a well contested race against the Defender. There is little doubt, however, but that the vessel is in as good and seaworthy a condition as at the time of the race, at least such would be the argument. On the other hand, the Defender is shook to pieces. Galvanic action set in and her plates, fastenings, etc., have suffered much through corrosion. So far has this deterioration taken place that it is now reported that no less than $25,000 will be required to put her in shape to act or serve as a trial yacht in practice with the new yacht to be built to defend the cup.

The Defender carried a steel boom 105 feet in length and it is now a mooted point whether the new sloop is not to have in addition to a steel boom, a steel mast, and if such is given her she will be the first racing machine to carry a steel spar. It was said in the old days, or for that matter, not so very long ago either, that with steel spars and wire rigging a vessel would not only tear her topsides open but that any sailing qualities in the hull would be rendered null and void, and the same argument was held regarding a stiff, too heavily fastened, or all metal hull construction, and there is logic in the reasoning to-day; so much so, that a fast vessel can be transformed into a very slow one through being crippled by too much, and, or, misplaced fastenings, etc.

There are staunch-built, seaworthy small craft; also yachts with more or less pretensions to the foregoing, including the essential of speed, and there are racing machines such as catamarans that call only for the latter quality. We take it, that speed, with the smallest allowable quantity of seaworthiness is what is required in the successful competitor for the America cup.

The Britishers then, must put together a craft that will stand up under whatever weather may be experienced in a passage "across the pond," while if the yacht built on this side is fitted to pull through a few hours of possible hard weather with the consequent straining, wear and tear, she will no doubt prove the conqueror and protect our laurels as the Defender did.

WE rather take exception to Mr. Herbert's suggestion contained in this issue, of making it compulsory for vessels to carry lifeboats having an aggregate capacity of 10 to 20 per cent. greater than the maximum number of passengers carried, and would prefer inserting "other capable life-saving devices," etc. There is no logic in the request that another vessel should accompany a passenger steamer so that in case of accident the passengers might possibly be transfered, and the lifeboat suggestion is on a par with and equivalent to making it compulsory for one vessel to follow another. Already the decks of passenger boats are filled up and overcrowded with small boats serving as flimsy and expensive breakwaters, as well as greatly retarding the speed of the vessel. Where the big boat can't live, small boats have but a poor chance. On the other hand, if the water is smooth and there is a chance for a rescue, life rafts or collapsible boats are just as good as ponderous, unwieldy lifeboats requiring a small crew to handle them, especially if they have to be carried across the deck to a lee side.

THE Richelieu & Ontario Navigation Co., in control of the passenger service on the St. Lawrence, appears to be one of those purse-proud, monopolistic corporations that ought to be swept off the route, or so re-constructed in its practical management as to change around its present force of employes. The RECORD seldom or ever has anything but good to say of lake and river passenger lines, but in this instance the most glaring evils are vouched for as being perpetrated on passengers using the above named line of steamers, especially on the branch below Quebec. As a protest has been lodged with the heads of departments we await their action before proceeding further in showing up how the R. & O. Nav. Co. have ill-treated its passengers on this spur of their route, for we infer that they consider the stretch of water below Quebec their own especial property. Canadians may put up with contemptuous and scandalous treatment when traveling by boat, but Americans want, and are seldom slow to demand, just what they pay for—viz: fair, square and courteous treatment and a just recognition of their rights under all circumstances.

ELSEWHERE in this issue is an illustrated article which describes in detail an ingenious device invented by Mr. Hermann Herberts for the purpose of warning a vessel at sea during a fog of the approach of another vessel, or of the vicinity of an iceberg, and thus reduce to a minimum the chance of another such accident occurring as was recently met with by the ill-fated La Bourgogne. Various types of auricular signals have been in use for some time in conjunction with the eophone, topophone and other similar receiving devices with varying success. Mr. Herbert's device, however, is based on the principle that an object emits heat radiations when its temperature is either higher or lower than the surrounding atmosphere.

LAKE FREIGHTS.

Iron ore freights rule at 50 cents and 40 cents, Lake Superior and Escanaba, respectively. A stand has been taken for 45 cents, Escanaba, and the advance has so far been granted that a charter to Buffalo at 42½ cents has been made, but shippers are fighting hard against any upward tendency in freights. At the same time it is confidently expected that the 45 cent rate will obtain before the close of the week.

Grain freights are brisk at 1⅛ cents on corn, Chicago to Buffalo, and this rate is equal to 45 cents on Escanaba ore. A ⅛ cent advance is looked for. Wheat to Kingston, 2½ cents. Duluth to Buffalo, 1¾ cents on wheat. Toledo wheat to Buffalo, 1 cent. Canal rates on corn to New York, 2⅜ cents.

Coal rates remain firm at 30 cents to Lake Michigan and 20 cents to Lake Superior, with heavy shipments and a strong feeling that anthracite from Buffalo should advance 5 cents by the end of the week. 25 cents has been freely offered Ohio ports to Milwaukee, with few takers, as Buffalo consumes the greater portion of the tonnage.

Lumber rates will advance a shilling next week, beginning with Chicago, which will be made $1.75. The rate would advance this week if it were not for the fact that there is considerable of a fleet loading. Lumber sales for Chicago shipment have been heavy this month, aggregating 40,000,000 feet.

LOSS OF THE WOODEN STEAMER SUPERIOR.

The wooden steamer Superior, 785 net tons, built by Linn at Gibraltar, Mich., in 1873, and owned by M. A. Bradley, Cleveland, was abandoned on Gull Island, Lake Michigan, on Sunday last. The Superior, with her consort Sandusky, left Escanaba for Toledo with cargoes of iron ore, meeting with heavy weather. After clearing Poverty Passage the Superior sprang a leak. Casting off the tow line of her consort her pumps were worked to their greatest capacity, but the water gaining on them the Superior was beached on Gull Island and abandoned as a total loss, the crew taking to the boats and landing on Beaver Island, from which place they were forwarded to their destination. Capt. Hiram Eldridge, Cleveland, who was in command of the Superior, is to be congratulated on the manner in which he handled the small boats and that there was no loss of life. The Superior was uninsured.

MARITIME LAW.

INSURANCE CO. OF NORTH AMERICA VS. CANADA SUGAR REFINING CO., LIMITED.

(*Circuit Court of Appeals, Second Circuit. April 19, 1898.*)

The question arises whether libelant was entitled to recover upon the theory of a constructive total loss. A constructive total loss is one where the loss, though not actually total, is of such a character that the assured is entitled, if he thinks fit, to treat it as total by an abandonment. A constructive total loss of cargo may arise by the loss of the ship under circumstances amounting to the destruction of the contemplated adventure, when no part of the cargo can be forwarded by a substituted ship except at a cost beyond the value of the goods. So, also, it may arise if the damage to the goods, though repairable, cannot be repaired except at an expense greater than their value when repaired, and is thus impracticable from a business point of view. There is also in the United States a conventional rule, originally adopted because of its convenience and certainty, which authorizes an abandonment of ship or cargo when the damage exceeds a moiety of the value, and a recovery as for a total loss. An abandonment is indispensable in all cases of constructive total loss, except in those where it could not possibly be of any benefit to the insurer.

By the later authorities it is settled that under a policy insuring a ship or cargo against "total loss only" the assured is entitled to recover upon proof of a constructive total loss. Adams v. Mackenzie, 13 C. B. (N. S.) 422; Heebner v. Insurance Co., 10 Gray, 131; Greene v. Insurance Co., 9 Allen, 217; Burt v. Insurance Co., 78 N. Y. 400; Carr v. Insurance Co., 109 N. Y. 504, 17 N. E. 369; Snow v. Insurance Co., 119 Mass. 592. It is a reasonable intendment that when an underwriter offers to indemnify the insured against a "total loss" he means to be understood to include any loss which the latter may justifiably treat as total. If he contemplates a more limited liability, he can protect himself by insuring against actual or absolute total loss. It does not necessarily follow that these words are to be given the same meaning in a policy upon profits as in a policy upon cargo; and our opinion is that they cannot have the same meaning. How can there be a constructive total loss of profits? In all cases where the destruction of the voyage or the damage to the cargo renders it impracticable, because the outlay will exceed the returns, to go on with the adventure, there is an actual total loss of profits, though it may be there is only a constructive total loss of the cargo. The moiety rule cannot apply, because the profits cannot be separated from the goods themselves, and an abandonment is ordinarily so impracticable that the rule cannot be supposed to have entered into the contemplation of the parties when making their contract. It has never been decided that in case of an insurance of profits an actual partial loss of the profits can be made total by abandonment, and the commentators incline to the contrary view. Mr. Phillips says:

"On the whole, it does not seem that the rule of constructive loss of over fifty per cent. of the value is applicable to a policy on profits in favor of the owner of the goods under any circumstances." Phil. Ins. 1656.

Prof. Parsons, after intimating that an actual partial loss of profits cannot be made constructively total by abandonment, uses this language:

"It would seem, therefore, that the fifty per cent. rule would not apply to an insurance on profits unless the insurer (the assured) should waive his right to abandon the goods, and, treating the loss of them as partial, abandon the profits separately. In theory this might be possible, but it would be attended with some difficulties, and can hardly be considered as in fact practicable." 2 Pars. Mar. Ins. 170, 171.

If there can be no constructive loss of profits the words "against total loss only" in an insurance upon profits can only refer to an actual total loss. They certainly cannot refer to a partial loss. They can have no effect whatever, if, as has happened here, the assured can retain part of the profits, and yet recover as though all have been lost.

The present contract, in view of the extrinsic facts, was intended to be, in substance, a second insurance on the goods themselves, "another way of valuing the goods" (Tom v. Smith, 3 Caines, 247), to cover the value represented by the advance in market price, and not adequately protected by prior insurance. See Ionides v. Pender, L. R. 9 Q. B. 531-536. Indeed, it is customary at the place where this contract was made to insure profits under the general denomination of "goods." Pritchet v. Insurance Co., 3 Yeates, 461. If the cargo itself, instead of the profits had been the interest insured, the libelant would have been indemnified only to the extent that the prior insurance might prove insufficient. Insurance is a contract of indemnity, and cannot extend to cover the loss in excess of the real loss; and, even under a valued policy, where there is a prior insurance, the assured cannot recover upon it more than will, with what has been received from the prior insurance, make up his whole loss. Craig v. Murgatroyd, 4 Yeates, 161; Watson v. Insurance Co., 3 Wash. C. C. 1 Fed. Cas. No. 17,286; Stevenson v. Insurance Co., 54 Me. 71; Pleasants v. Insurance Co., 8 Branch, 55. The property at risk was really the cargo, because the profits were merely an excresence of the goods; and, if the contract had not been "against total loss only," the appellant would have been liable only for deficiency. It cannot be that the insertion of these words were intended to enlarge the extent of the appellant's liability. They were meant to restrict it. They were used in view of the doctrine, expressed by the commentators upon insurance, that there cannot be a constructive total loss of profits. We think the insuramce was placed upon the profits instead of upon the cargo directly, and restricted to a total loss only, to save any question as to the liability of the appellant for a partial or constructive total loss; otherwise there would have been no occasion for naming that interest, and the insurance would have been upon the cargo itself.

By the decree of the court below the libelant has been awarded a recovery, which, if collected, would put into its pocket the profits realized on the cargo saved, in addition to the amount of the respondent's policy. Irrespective of this consideration, and because it has received the profits on a part of the cargo, we are of the opinion that there has not been a total loss of profits within the meaning of the contract.

The decree is reversed, with costs, and with direction to dismiss the libel.

SOME VALUATIONS OF LAKE VESSELS.

The new steel steamer Samuel F. B. Morse, just completed at the yards of Wheeler & Co., West Bay City, for the Bessemer Steamship Co., Cleveland, is given an insurance valuation of $250,000. The steamer Hendrick S. Holden, built by the Globe Iron Works Co., for Mitchell and others, is quoted at $210,000, and the Huron, built by the Cleveland Ship Building Co. for R. R. Rhodes and others, at $125,000. The Troy, built at the Wyandotte yards of the Detroit Dry Dock Co. for the Western Transit Line, of Buffalo, $200,000, and the schooner or consort Maia, built by the Chicago Ship Building Co. for the Minnesota Steamship Co., $135,000. Also the John A. Roebling, towbarge, for the Bessemer line, $150,000.

These six new vessels are all built of steel, their aggregate net nonnage is 21,247 tons, and their estimated valuation for insurance purposes only, at $1,070,000.

MEETING OF THE LAKE CARRIERS' ASSOCIATION.

The meeting of the Lake Carriers' Association, held at Cleveland on Thursday, with a fair attendance of vessel owners, and presided over by Capt. J. S. Dunham, president of the Association, resulted in a unanimous vote, embodying the resolution, that an exhaustive brief be furnished the International Conference Commission now in session at Quebec, in support of the abolition of tolls on the Welland and St. Lawrence system of canals; furthermore, that should the Conference so desire, a committee will be appointed by the President of the Lake Carriers' Association to make a verbal presentation of the existing conditions and future probabilities. The members of this committee were not appointed at the meeting, but Counsel for the Association, Harvey D. Goulder, Esq., and Capt. J. J. H. Brown, of Buffalo, were mentioned as likely members. It is certain, however, that whatever steps may be taken in this connection, Mr. Goulder will bear the brunt, whether as chairman of the committee, or Counsel for the Association of Lake Carriers.

PRESIDENT JAMES J. HILL, of the Great Northern Railway, is credited with saying that the Great Northern road alone has been compelled to refuse the shipment of 60,000 tons of steel rails and 30,000,000 pounds of cotton—all demanded by Asia—simply because there are no water facilities by means of which the merchandise may be transported to Asiatic ports. He said further that as the United States has no merchant marine, and as what there is obtainable in other countries is largely under the control of a foreign element antagonistic to American business, and favorable to foreign business, largely English, there is nothing for us to do but refuse this enormous and growing traffic, until our government does something in the way of fostering our steamship interests.

THE LAKE CHARTS.

(Communicated.)

Although Mercator charts were widely known some fifty years ago, and had been recognized by all seafaring nations as the best charts for navigation, the U. S. chart department of that time seems to have been ignorant of their excellencies, as is evidenced by its adopting conical projections for lake charts. On Mercator charts, meridians, parallels of latitude and courses are all presented by straight lines, whereas, on the old lake charts they are represented by curves, a great disadvantage in finding and shaping courses.

It is, however, not alone the defects attached to the principle of construction, which renders the old lake charts objectionable, it is their incompleteness in soundings, and inaccuracy of the courses laid out, as well as the errors in plotting them. For instance: On Lake Erie chart the distance between the parallels of 41° and 43° of latitude is four miles wrong, being 134 miles instead of 138 miles. On Lake Huron chart the longitude of lights does not agree with those given in the Hydrographic Office list of lights. On Lake Michigan charts the courses drawn on one sheet do not correspond or connect with the courses on the other sheet. A defect common to all these charts is, that the course lines do not correspond to the courses marked on them, deviating in some instances up to ¼ point from the direction they are to represent.

The defects of the old lake charts as to soundings, have been illustrated again and again by the surveys of the U. S. S. Michigan, in recent years, and by numerous bad spots found by lake vessels in course of time, and many of them in places marked on the old charts with from 4 to 20 fathoms of water. These defects have sometimes been productive of other defects, namely, the establishment of lights in places where they are of very little use; for instance, on Squaw Island, where, after establishing the light, it was found that a light vessel two miles farther north, at the extremity of the spit, would have served all purposes better; the mistake in the choice arising from the spit not being marked on the chart. Similar mistakes, on account of defective charts, have been made in other parts of the lakes.

Since the Hydrographic Office has taken an interest in the Great Lakes, regular notices to mariners, respecting the lakes, have been published, and also minute charts of some shoals and reefs, of Detroit river, of Point Pelee passage Lake Erie, of Waugoshance passage Lake Michigan, etc., being greatly appreciated by lakefarers, as also the charts of Hay Lake and Mud Lake channels, St. Mary's river. A chart on a large scale of the southernmost part of that river would also have been a great blessing.

The charts covering large areas of the lakes, and published by the Hydrographic Office have, however, not been a success. Pilot chart No. 1415 of 1894, comprising all the lakes, is anything but a pilot chart. All it contains is the variation of the compass for the entire lake region, and therefore, it is properly a magnetic chart. The small scale on which it is drawn, excludes piloting by it entirely, so much more as no soundings are given. Besides furnishing the variation, its value consists only in being the first lake chart on Mercator projection, and in its explanatory notes on deviation.

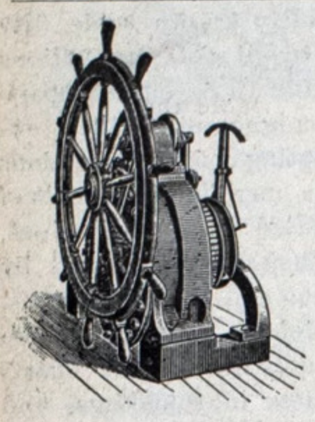
In omitting said notes, and inserting in place of them a distance table of different places on the lakes, in the following issue of 1895, a retrograde tendency is already discernible, which finds a clearer expression in the lake charts on Mercator projection, published thereafter. Although being on a larger scale than the former, but not sufficiently large for practical purposes, no improvement is visible; on the contrary, instead of being charts of the lakes, they appear to be railroad maps of large areas surrounding the lakes, the lakes being made a mere appendage, as the relative space occupied by them plainly shows. Marring these charts still more, are the soundings in feet, instead of fathoms, and the lack of all details lake pilots have to look for in shaping courses is an additional drawback.

With such degeneration in the larger charts, there seems to be little hope for having the old lake charts converted into Mercator charts of the same scale or size, in order to do away with the present uncertainty respecting courses, and have soundings corrected up to date, with modern shading applied to easily distinguish them.

Chicago, Aug. 31. 1898. JOHN MAURICE,
Civil Engineer and Nautical Expert.

CIVIL ENGINEER WM. T. BLUNT, of the U. S. Engineer Corps, made a trip up Toledo river on the government steamer Visitor, to locate the boulder which the steamer Reynolds struck. He was accompanied by manager A. W. Colton, of the Lake Erie Transportation Co.

QUEEN CITY HYDRAULIC STEERER



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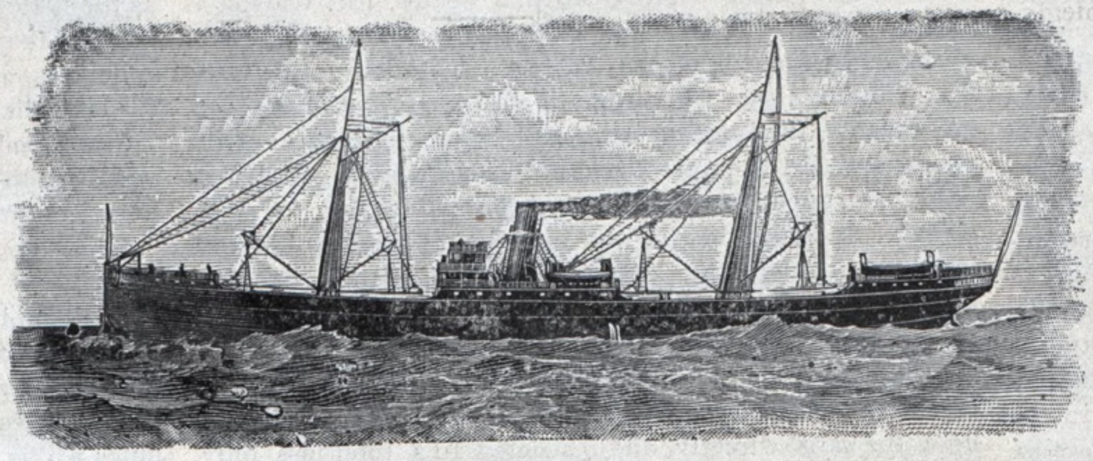

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☞We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

THAT KEARSARGE SIGNAL.

HAMMOND, MICH., Aug. 30., 1898.

To the Editor of the Marine Record:

In a recent issue of the MARINE RECORD you ask why a merchant ship's name should be exhibited from the port fore yard arm on the U. S. S. Kearsarge. Of course it was only on a picture, as you state, at the same time it had no right, or rhyme, or reason being there. I have looked the matter up, and find that the signal letters quoted H. J. R. B., are the signal letters assigned to the schooner Hattie, of Deer Island, Me., built in Belfast, Me., in 1866.—170.08 gross tons.

JOSEPH VALENTINE.

PELEE ISLAND TELEPHONE CABLE.

SOUTH PELEE, ONT., August 29, 1898.

To the Editor of The Marine Record:

It will interest your marine and insurance readers to know that the Canadian government have recently laid down the Pelee Island telephone cable out to the Dummy Light, Point Pelee, and put a telephone instrument in the Dummy itself.

By this considerate action, all vessels may, at a moment's notice, wire to all points in Canada and the United States, giving intelligence of any casualty which may occur, or of the passing of any special steamer, boat, raft, etc.

The Pelee cable as now laid, extends to the east side of Pelee Island in a straight line, to a point about one mile south of Pelee Island Light. It is also south of the "middle ground" and all reefs in the north channel.

From its landing on Pelee Island, the line extends to the life-saving station at the south end of Pelee Island, and the life-boat can be launched in a few minutes at any hour of the twenty-four.

J. B. MCCORMICK.

AMERICAN REGISTRY FOR AMERICAN-BUILT SHIPS.

DENVER, COL., August 25, 1898.

To the Editor of The Marine Record:

I note that you have printed an article from the Liverpool Journal of Commerce as an editorial of your own without comment upon its offensive doctrine in favor of free ships. By this, I hope that the RECORD has not gone over to the British.

The Journal of Commerce complains that British vessels are prevented by our laws from engaging in and appropriating our coasting, lake and river trades. It would be like the British to hog all the navigation on the globe. They have now nearly three times the shipping sufficient for their commerce with the world. They build on an average 83 per cent. of all the shipping launched, but how they whine for more!

The Journal of Commerce remarks that "the law forbidding American registry to foreign-built vessels does not promote shipbuilding in American yards as intended." This is certainly untrue in respect to vessels for the lake, river and coasting trades. These have all the vessels they need—the finest in the world—for their business, all built by home shipyards, as the law intended. These trades are all under protection, as well as the shipbuilding that goes with them. What a pity it is that the Journal of Commerce can not see and understand anything so plain! What it had in view was a few fruit carriers running between the West Indies and our Atlantic coast. Seeing these were foreign-built, it generalized amiss. Then the Journal of Commerce remarks that the registry law "does not altogether prevent Americans from putting their money in shipping"—the said foreign vessels being owned in Boston. Only an English imagination could think of such a use for a registry law. The free ship advocates used to make this allegation however, and it is something to get such a notion out of their heads, even half way.

But the Liverpool Journal of Commerce can set it down that our registry law was not made for British use, or under British dictation, although at the time the British had just such a law themselves. Nor was it enacted for the convenience of a class of skip-about ship-owners, who put their vessels under any flag where they think they can make a shilling—British to-day, French to-morrow, Spanish next day and Turkish the day after that. Pirates, buccaneers, slave-traders, or anything they please, but Yankees, never. No, our ship registry law was enacted in the interest of the United States of America, not even for owners or builders so much as for "Uncle Sam" himself. After the peace of 1783 we were eleven years without a registry law for American vessels, and twelve years we were practically under free-ship custom. In that time our forefathers had ample experience to enable them to judge of the necessity for the present statutes so obnoxious to the people of Great Britain. It was necessary that the art of shipbuilding be pursued in order to maintain our independence of Great Britain, and to constitute the United States of America one of the powers of the world at sea as ashore. Whence came the fleets that licked the British on the Great Lakes in the war of 1812? From the hands of American mechanics. Whence came the frigates, sloops of war, and privateers that captured so many British flags on the ocean in the war of 1812? From the hands of American mechanics. Whence came the Kearsarge that sunk the Liverpool-built Alabama in the late civil war. From the hands of American mechanics. Whence came the splendid clipper ships that Englishmen used to charter before they could, under their own law, own foreign-built vessels? From the hands of American mechanics. Whence came the little American navy that has just shown the Englishman and all the world that our registry law has survived, and that the art of naval architecture has survived with it, and that the American shipbuilder, engineer and seaman continue to have no superiors on earth? Oh! what would the British give if we had never had our registry law, and never practiced the art of shipbuilding, and never bred mechanics and seamen who could match their own in the shipyard, the machine shop and behind the gun? Their free-ship palaver better be given to the geese than printed for American reading. Yours truly,

WILLIAM W. BATES.

MODERN METHODS IN TOWING REQUIRED

Recently a letter was published in the local press from an officer on board the Brutus, giving a description of the difficulty experienced in towing the Monterey. The great manila hawser is described as being literally sawed asunder near the Monterey's bitts, owing to the constant wrenching. To those familiar with modern methods of towing, the plan adopted by the authorities seems as obsolete as smooth bore guns would be for the Monterey's battery. Had the Brutus been supplied with a towing machine and a steel wire hawser, the hawser would never have broken. The Shaw & Spiegle machine, manufactured by the American Ship Windlass Co., as has often been noted, pays out the hawser automatically

and takes in the slack in the same manner, entirely avoiding the strain otherwise coming on the hawser as the vessels pitch or roll. Towing bitts and manila hawsers were all right in the days of wooden ships, but in this day of improvement, steel wire hawser and a towing machine is indispensible. To show the popularity of the Shaw & Spiegle patent steam towing machine, it is only necessary to mention a few facts. This company during the past five years has sold and delivered 52 towing machines, and now has orders unfilled for 10 more, or a total of 62 machines. Within the past three weeks orders have been received for ten of these machines, part of which have been delivered. The company has shipped to the lakes alone 32 of these machines, and the balance have been sent to the Atlantic and the Pacific coast. There is no towing device at the present day that has been more thoroughly tested, and no invention ever proved more perfect in practical use than has this machine. It is only necessary to be fully acquainted with the merits of this towing machine to be convinced of its economy and general efficiency.—Commercial News, San Francisco.

THE steam yacht Orienta which is owned by Mr. Edward R. Ladew, of New York, broke her main shaft the morning of the naval review in New York harbor. An order for a shaft has been placed with the Bethlehem Iron Co., South Bethlehem, Penna., and through their quick delivery of the new shaft it is hoped the yacht will be placed in commission again at an early date.

ONE FARE FOR THE ROUND TRIP, CLEVELAND TO CANTON VIA C. T. & V. R. R.

September 5th to 11th, inclusive. Account of Elks' Street Carnival. Tickets good returning to Sept. 12th, inclusive. This will be a show of great credit to Canton and every one should see it.

LAST NIAGARA FALLS EXCURSION.

From Cleveland via Erie R. R., $3.00, Wednesday, Sept. 7. Special train 8 p. m., Willson Ave., 8:10 p. m., via Lake Chautauqua, direct. Good 5 days returning. Toronto $1.00 extra.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	363,000	715,000	221,000	10,000	95,000
Chicago	333,000	5,697,000	458,000	144,000	9,000
Detroit	96,000	57,000	29,000	11,000	.....
Duluth and Superior	664,000	1,252,000	25,000	60,000	37,000
Milwaukee	15,000	.....	.....	2,000	10,000
Montreal	28,000	28,000	342,000	10,000	8,000
Oswego	.....	.....	.....	.....	.....
Toledo	314,000	253,000	193,000	37,000	.....
Toronto	12,000	.....	8,000	.....	.....
On Canal	17,000	2,038,000	6,000	.....	39,000
Grand Total	5,927,000	16,530,000	3,298,000	423,000	297,000
Corresponding Date, 1897	15,473,000	27,873,000	9,250,000	1,816,000	1,046,000
Increase	77,000	407,000	388,000	22,000	41,000
Decrease	.....	.....	.....	.....	.....

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

THE forgings for the engine for the Boston Elevated Railway Co. will be made by the Bethlehem Iron Co., South Bethlehem, Penna. It is interesting to note that the shaft for this engine is to be 27′ 10″ long and 37″ in diameter. It will be hollow forged, having a hole 17½″ in diameter. The shaft when completed, together with cranks and fly-wheel hub, will weigh upwards of 150,000 pounds. This will be assembled at the works of the Bethlehem Iron Co., and transported in its entirety by rail to Boston.

VISIT THE GREAT TORONTO FAIR.

Last excursion to Niagara Falls from Cleveland $3.00, and Toronto $4.00, via the Erie R. R., Wednesday, Sept. 7. Special train leaves Cleveland, South Water St., at 8 p. m., and Willson Ave. at 8:10 p. m. Tickets good 5 days, and for stop off at Lake Chautauqua. Sleeping car space, etc. at 1 Euclid Ave.

$1.00, CLEVELAND TO CANTON AND RETURN VIA C. T. & V. R. R.

Thursday, Sept. 8th. Account of Elks' day at Canton Street Carnival. Tickets good going and returning date of sale only.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, in their eastern freight report for the current week state that the slightly brighter outlook referred to in our last has further developed to some extent, and, with but limited available tonnage for full cargoes of grain, it appears more probable that freights will advance to 2s. 9d., possibly 2s. 10½d. to Cork for orders for early September loading. Tonnage, however, for cotton, timber and other commodities for near-by loading, is sadly neglected, and in face of this, further orders for coal shipments are attracting owners and meeting with ready acceptance With the exception of tonnage of good type, for delivery late September and during October, there is but one order in our market worthy of attention for time charter boats.

Business in sail tonnage has been remarkably light during the past week, but rates about hold their own, except for case oil to the Far East, for which we have again to lower our quotations.

THE HILLES & JONES COMPANY, Wilmington, Del., have completed for the Harlan & Hollingsworth Company a set of special bending and flanging rolls, 20 ft. 6 in. between housings, the top roll is 23 in. in diameter, and the bottom rolls 20 in. in diameter; they are driven by duplex engines. The weight is about 150,000 pounds. It will be used to roll and bend iron and steel plates for the hulls of vessels.

$3.00 CLEVELAND TO NIAGARA FALLS AND RETURN, $3.00.

Excursiou via Erie R. R., Wednesday, Sept. 7. Special train leaves South Water St. at 8 p. m., and Willson Ave. at 8:10 p.m. Tickets good 5 days and for stop off at Lake Chautauqua, returning. Toronto $1.00 extra. Secure sleeping car space, etc. at 1 Euclid Ave.

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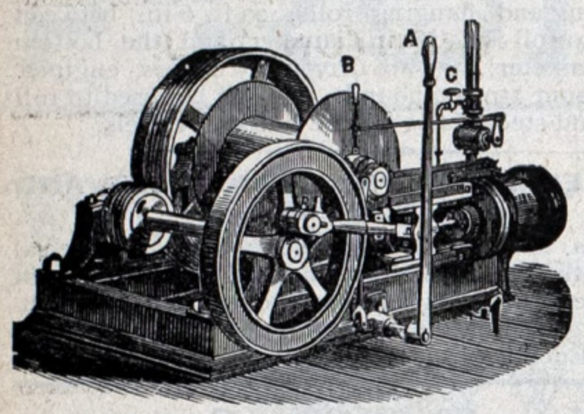

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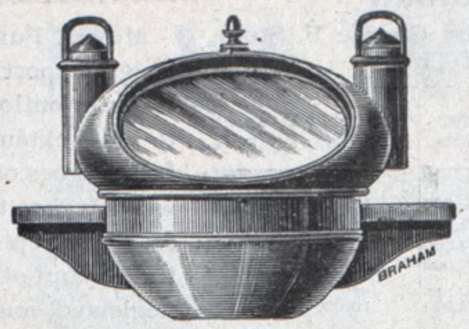

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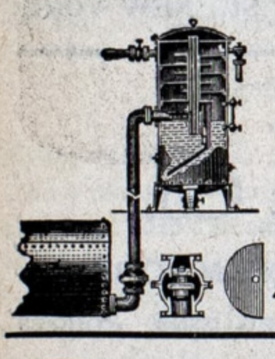

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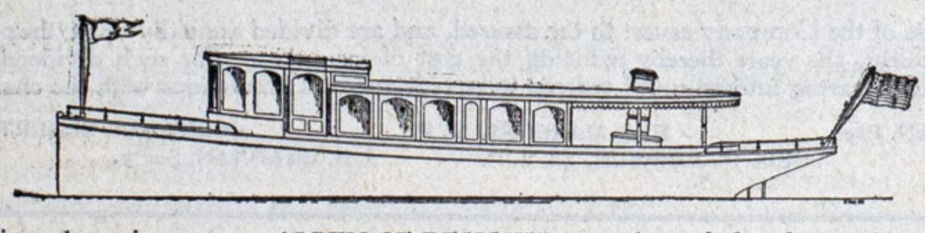

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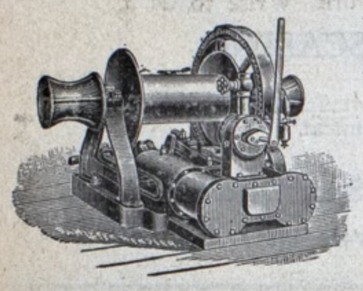

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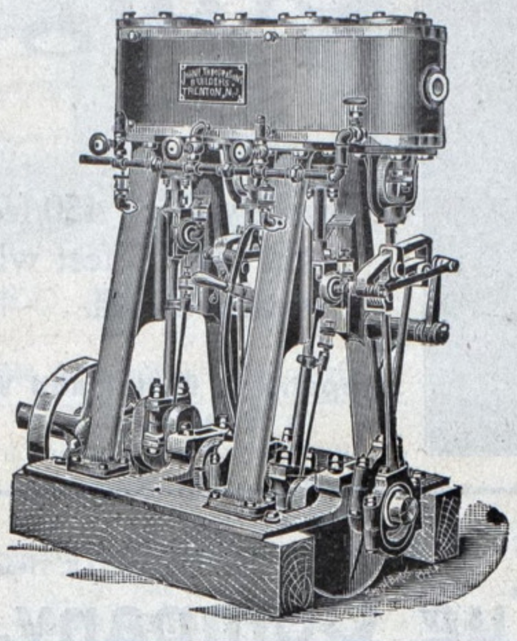

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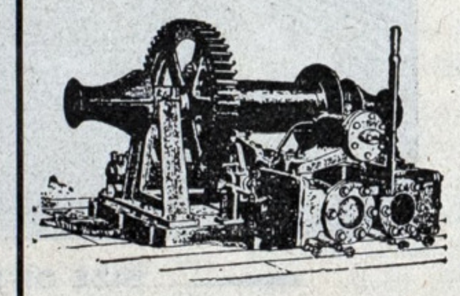

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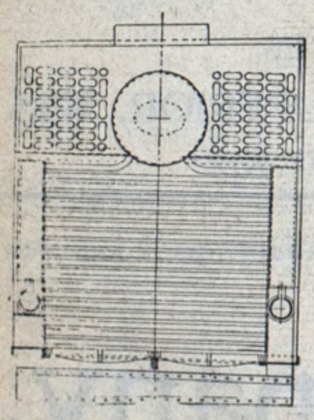

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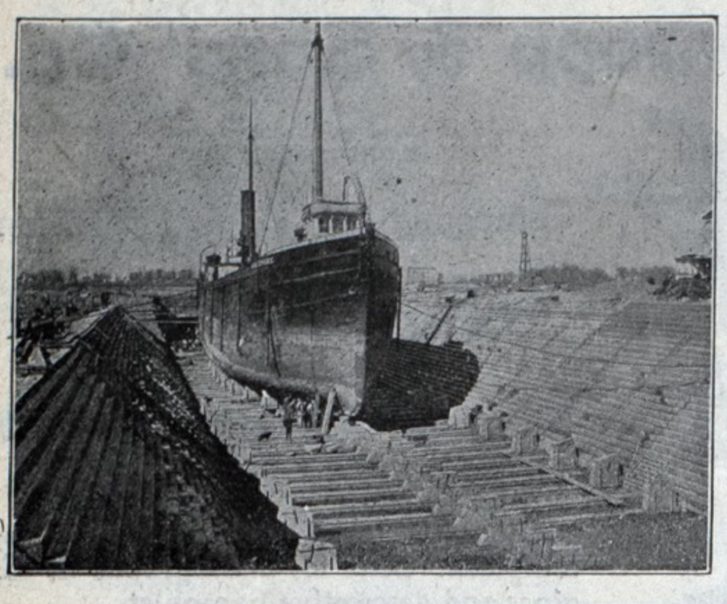

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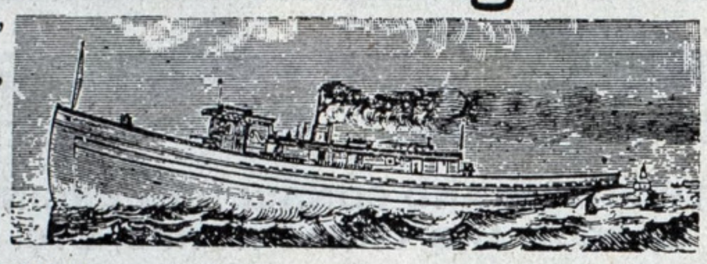

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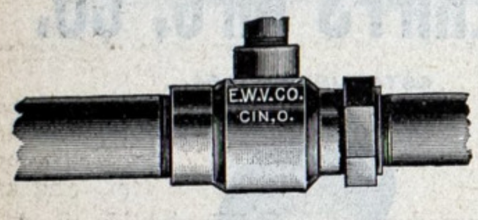

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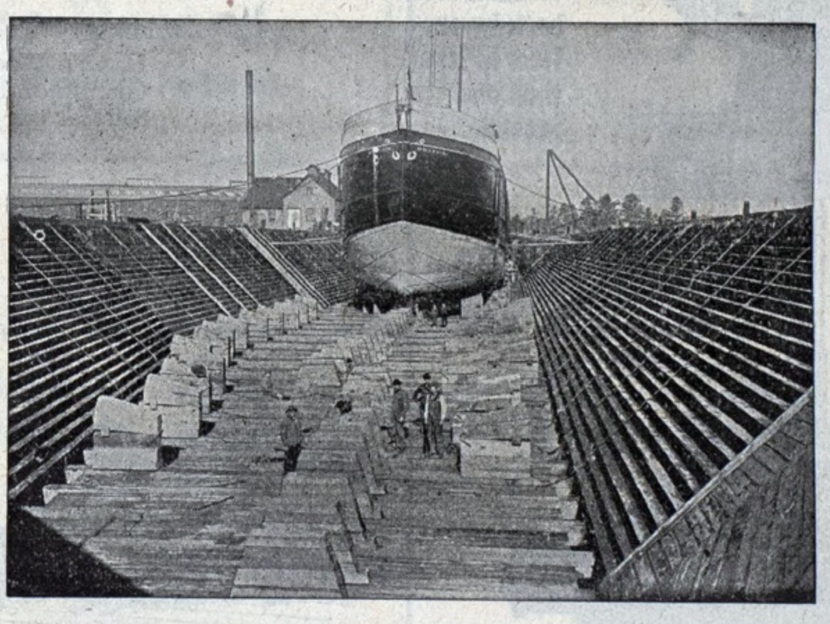

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No. 1, 462 Feet.	50 Feet.	18 Feet.
No. 2, 350 "	55 "	18 "
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